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# The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERING MARKETING

Published Every Thursday TULSA, OKLAHOMA, FEBRUARY 28, 1929 $6.00 a Year

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.... When gasoline prices are low.... .... can you produce it at a profit?

You could with a—

JENKINS CRACKING PROCESS

REFINERY DIVISION

GRAVER Corporation

Founded 1857

844 Rush Street ~ Chicago

NEW YORK FORT WORTH LOS ANGELES

Plant — East Chicago, Indiana

Advertisers' Index on Page 33 Table of Contents on Page 34

# Nitralloy

## the new valve mounting

**NOW in CHAPMAN VALVES exclusively**

Harder—proof against scoring — against seizure of disc and seat — against highest operating temperatures—this new surface-hardened special steel gives long life to valves. CHAPMAN Iron and Steel body Valves can now be obtained Nitralloy mounted.

Nitralloy is hard enough to scratch glass, and cannot be marked even by special testing files. With this surface hardness it combines a tough core of extremely high tensile strength, practically immune to distortion. Exhaustive tests against all other types of valve mountings show overwhelming superiority for Nitralloy trimmed valves, and point to unprecedented length of life for these valves under hardest operating conditions.

Refinery engineers and executives interested in plant economy will want to be informed on this new valve development. Upon request we will gladly send full information.

You can get **CHAPMAN** Refinery Valves, Drilling Valves, and Pipe Line Valves on immediate delivery from our distributor in your territory.

**The Chapman Valve Manufacturing Co.**
**Indian Orchard, Mass.**

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*Distributors*

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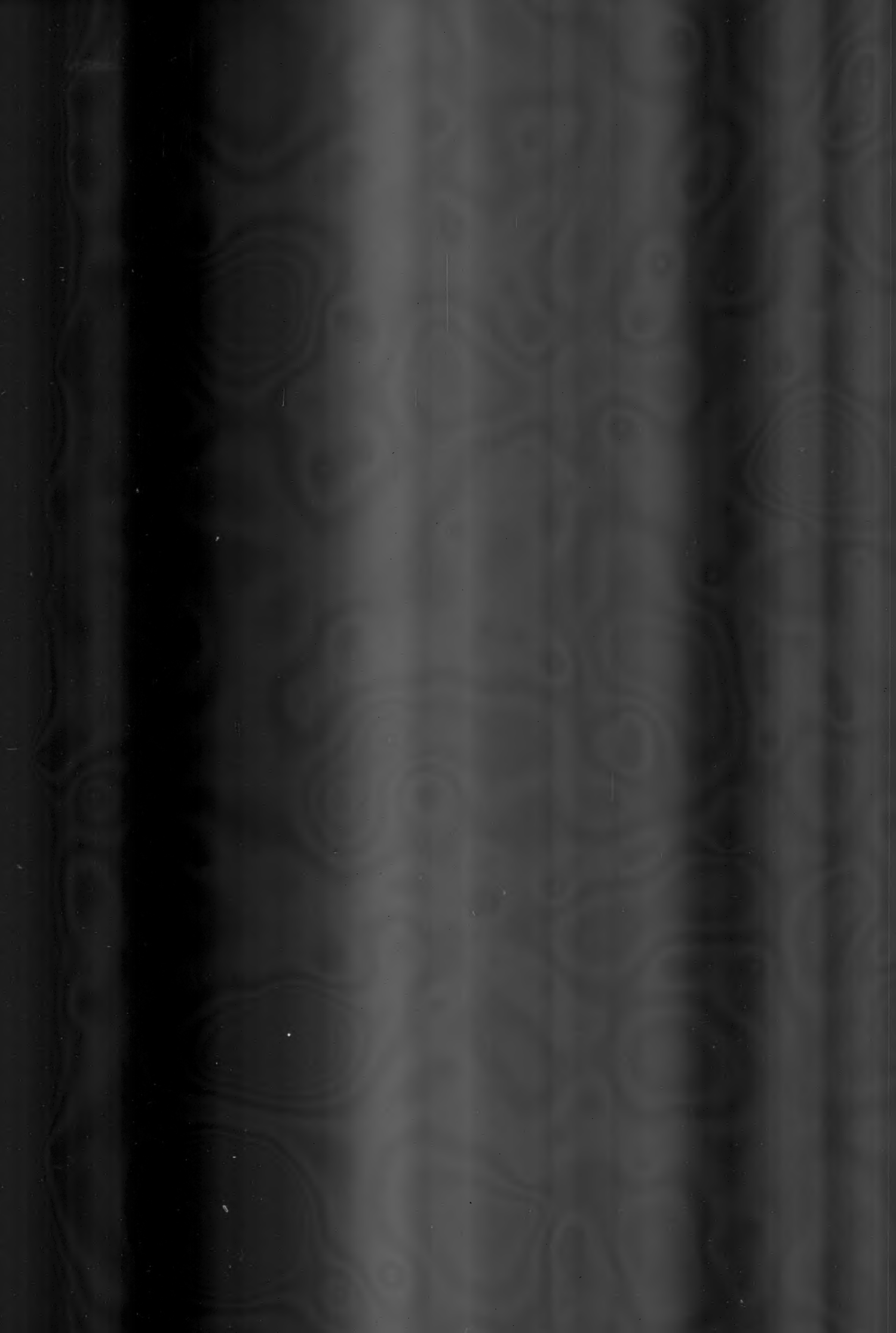
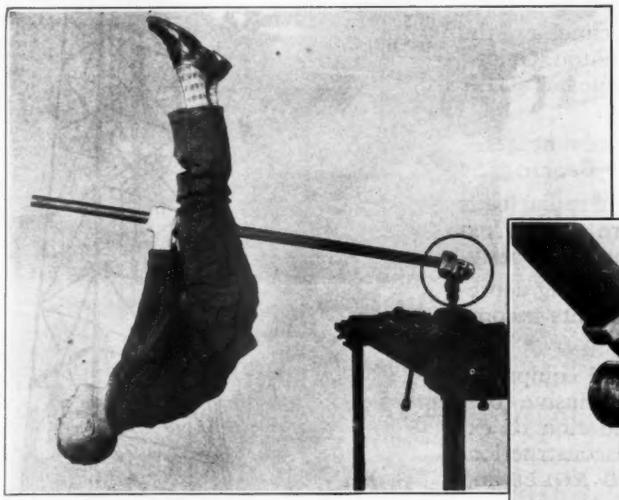


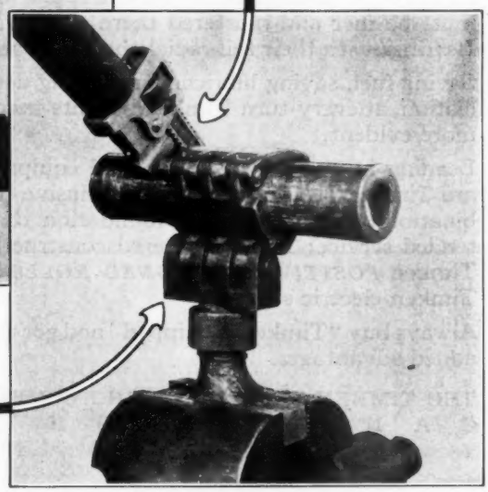
# Testing Two Tough Wrenches

WALWORTH MASTER STILLSON

WALWORTH PARMELEE



## 9,000 inch-pounds on the Master STILLSON



## 4½ Tons of Twist on the Parmelee

These photographs—and they are *real* photographs—show a contrivance for testing the grip of a Walworth Master Stillson and a Parmelee wrench. The man who does this stunt says there's no risk.

No risk!—although there's a bending strain of 9000 inch pounds on a 14-inch Master Stillson and 4½ tons of twist on the Parmelee. And don't forget that the Parmelee has no teeth!

You can count on strength like this and an almost incredible resistance to strain when you get the new red-handled Walworth Master Stillson and the Parmelee working for you.

The Master Stillson is made in eight sizes ranging from 6 to 48 inches. The Parmelee comes in a No. 1 Sleeve Lock type and four sizes of the Nut Lock pattern, for ⅜ to 1 inch, 1 to 2, 2 to 3 and 3 to 4 inch pipe respectively. This wrench is especially useful for work in close quarters and to prevent marring brass pipe and smooth rods.

# WALWORTH

Walworth Company, General Sales Offices: 51 East 42nd St., New York
Plants at Boston, Mass.; Kewanee, Ill.; Greensburg, Pa., and Attalla, Ala.

*Distributors in Principal Cities of the World*

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Walworth International Co., New York, Foreign Representative


The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription price $6.00 per year; 15 cents a copy. Entered as second-class mail matter December 15, 1911, at the post office at Tulsa, Okla., under the Act of March 3, 1879

# 8 TIMKENS mean 8 ADVANTAGES in the Young Drilling Engine

"Read the specifications," says a circular of the Young Engine Corporation of Canton, Ohio—"you will agree the Big Boy engine has all the attributes of a successful machine."

Prominent in the list are eight advantages—*eight Timken Tapered Roller Bearings.*

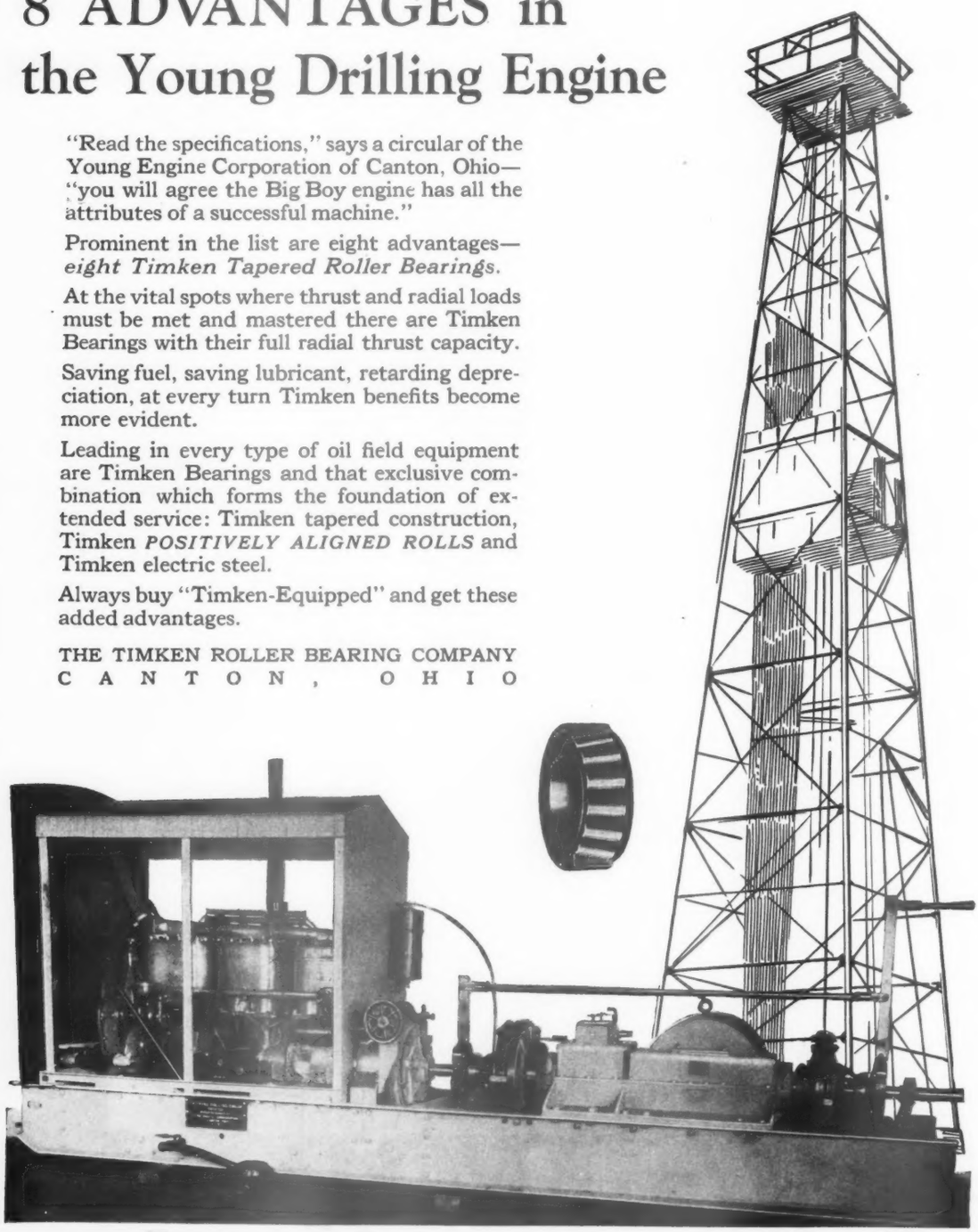
At the vital spots where thrust and radial loads must be met and mastered there are Timken Bearings with their full radial thrust capacity.

Saving fuel, saving lubricant, retarding depreciation, at every turn Timken benefits become more evident.

Leading in every type of oil field equipment are Timken Bearings and that exclusive combination which forms the foundation of extended service: Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS* and Timken electric steel.

Always buy "Timken-Equipped" and get these added advantages.

THE TIMKEN ROLLER BEARING COMPANY
C A N T O N , O H I O



**TIMKEN** *Tapered Roller* **BEARINGS**

# Three bearing metals that meet 95% of all bearing needs

*—let us send you this* FREE *book*

If you wait for an important bearing to go wrong and tie up your plant, it will be too late to look inside the covers of this interesting little book we are now offering free to bearing metal users.

It will be too late, that is, as far as that *particular* bearing and expensive delay is concerned.

But you will learn things there about the Eagle Bearing Service that will make you wish you had had the book earlier. For instance, how this service has developed three scientifically designed bearing metals that meet 95% of all bearing requirements. That will enable you to standardize on bearings to ensure smooth plant running—and actually save you money.

Let us send you this book free. Use the coupon. *The Eagle-Picher Lead Company, Chicago, Joplin, Cincinnati.*

THE EAGLE-PICHER LEAD COMPANY
Joplin, Missouri

Please send me, without obligation, your free Bearing Metal Book.

*Name*_____

*Address*_____

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# EAGLE Bearing Service

1 *Eagle Dreadnaught High-Speed Bearing Metal*—for extreme speed and heavy pressure conditions.

2 *Eagle Outlasta General Service Bearing Metal* — for average speed and pressure conditions.

3 *Eagle Durable Bearing Metal* —for the less severe bearing requirements.

# The New BAKER Valve Assembly

## Correct Functioning

## Always!

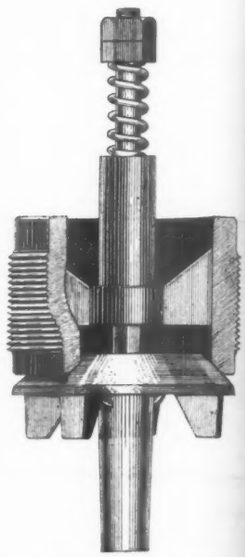
*A deeper and stronger cross member.*
*Nickel Chromium valve stem.*
*A thinner valve seat.*
*Larger passageway for the circulation.*

The Baker Drill Pipe Float is universally accepted as the standard because it functions correctly always . . . . .

. . . . . Hundreds of keen-minded superintendents and engineers know it.

. . . . . They specify that Baker Float Valves be used in every string of drill pipe. It's the only safe way.

Only the best of materials, accurately machined, together with proper inspection of every part before being assembled insures a valve that is always uniform in quality.



Full cut-away view showing new heavier cross member and thinner valve seat.

View of the complete assembly ready for insertion between the tool joints.

Send for the complete Baker catalog. Put up in loose leaf form with leather binder and tabbed sections so you can instantly find any tool you want.

**BAKER**
**OIL TOOLS, INC.**
*Formerly Baker Casing Shoe Company*
Box L, Huntington Park, Calif.

*California Branches:*
Coalinga Taft Bakersfield Ventura

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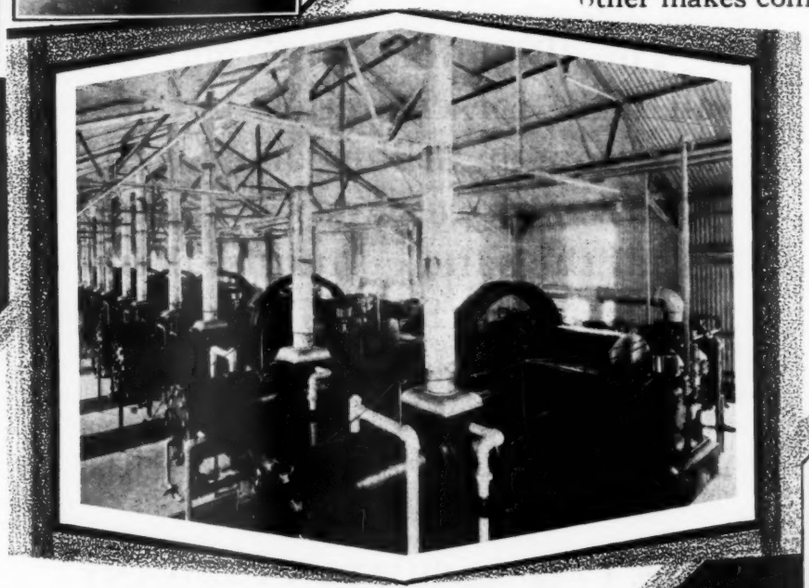
*Export Sales Office:*
25 Broadway, New York City

*Mid-Continent Distributors:* B & A Specialty Co.
220 E. Brady St., Tulsa, Okla; 2301 Commerce St., Houston, Texas

# McCord LUBRICATORS

## STANDARD OF THE OIL FIELD

There is no denying the best recommendation any product can offer is the approval of its users. More McCord force feed lubricators are in use in the oil fields, giving satisfactory service than all other makes combined.



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ALL BRANCHES

*21—165 H.P. Units—*
*McCord Equipped*

**McCord Radiator & Mfg. Co.**
**LUBRICATOR DIVISION**
**Detroit, Mich.**

**The "Blindfold Test" may be all right for cigarettes, but it's all wrong in drilling an oil well. Know *before* you set casing what the sand contains. The Halliburton Sand Tester tells you quickly, accurately, economically.**

**ERLE P. HALLIBURTON COMPANY**
***Duncan, Oklahoma***

# A LETTER FROM HARRY G. NYE

TO THE OIL MEN OF THE U. S. A.

Fellow Citizens:

Well, I see the Coolidges are about to be put out into the street, because the Hoovers have taken the house. That's the worst of being a minister of the Methodist church or a president of the United States. You just get the hall switch located, and know how long it takes to fill the tub, and then you have to move on.

Every four years we spend several million dollars to hire a new president, and then, in eight years at the most, we fire him and hire a new one. If we ran our shops and factories the way we run our government we wouldn't make a cent, and sometimes we don't anyway.

But perhaps these companionate presidents are a good idea. Even if they're good we don't keep them so long that they spoil, and if they're bad we've got something to look forward to. The only two things we have had sense enough to put a limit on are the seven years itch and an eight year president.

Personally I think it would be a great mistake to elect any man for a third term. It is bad enough now, the way he keeps his eye on a second term all through his first term; but if he kept his eye on a third term all through his second term we wouldn't get any service whatsoever.

And, in case we make a mistake, eight years is enough. Too much is quite sufficient. We might send some fellow to the presidential chair some time that we ought to have sent to the electric; but, thank goodness, in eight years anyhow we can give him a hearty breakfast of ham and eggs and end it all.

And it is a good thing in another way. Every boy is taught that he has an equal chance to become president, but, luckily, he never cared enough about arithmetic to sit down and figure it out. But I hope no boy will get discouraged because there happen to be 45,200,000 boys in the United States and only one presidency.

But, if he can't be president, he can be an oil man and use Nye Tools and live happy ever after. If our presidents had as good tools to work with as our oil men, etc., have, they would live longer, and happier, because Nye Tools work so much faster and easier. We think we'll send Herb a die.

Faithfully yours,

HARRY G. NYE.

*Nye Drop Forged Pipe Cutter*

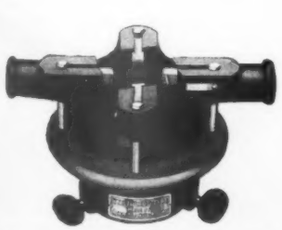
No. 1-A Complete ..... $2.75 net
No. 2-A Complete ..... 3.30 net
No. 3-A Complete ..... 5.50 net

*Nye Three-Wheel Pipe Cutter, Barnes Type*

Equipped with Three Nye Knurled Cutter Wheels

No. 1 ..... $ 2.48 net
No. 2 ..... 3.30 net
No. 3 ..... 5.50 net
No. 4 ..... 11.00 net
No. 5 ..... 16.50 net
No. 6 ..... 22.00 net

Nye thin blade cutter wheel, made to fit all standard makes of pipe cutters, and guaranteed against breakage in use. Made both in smooth and knurled edge.



The rugged construction and few working parts account for the simplicity and durability of these Nye Receding models. They do the work easily and efficiently.

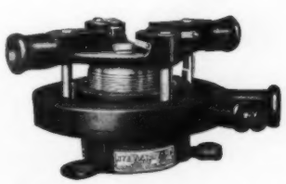
No. 1 Nye Receding Pipe Threader, complete ..... $9.60 net
West of Rocky Mountains ..... $10.80

Copyright, 1929, by HARRY G. NYE
All Rights Reserved

*Otherwise Known as*
THE NYE TOOL & MACHINE WORKS
4120-30 Fullerton Ave., Chicago, Ill.

*Nye (Toledo Type) Chasers Fit Nos. 1, 1A and 2 Nye (Toledo Type) Stocks*

Each set is guaranteed in every particular. Will cut much easier than other similar dies.
No. 1, 1" to 1½" ..... $ .75 per set net
No. 1, 2" ..... 1.25 per set net
No. 2, 2½" to 4" ..... 3.60 per set net



The No. 1A is the same as the No. 1 except that it is equipped with a ratchet for work where space is restricted.

No. 1A Nye Receding Pipe Threader, complete ..... $12.00 net
West of Rocky Mountains ..... $13.50

# POWELL

# VALVES

## IN THE OIL FIELDS
## IN THE REFINERY

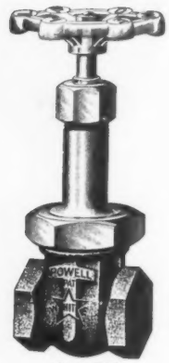



Fig. 375
Bronze "White Star"
Gate Valve

Fig. 460
Iron Body "Pilot"
Gate Valve

HAD Powell Valves been specially designed for no other purpose, they could not be more adaptable for handling volatile and hazardous liquids.

All parts are carefully machined from close-grained metals; tested to limits greatly exceeding normal operating pressures. Thus the utmost in service and dependability is assured the user.

POWELL Valves for oil field and refinery service include globe, angle, cross, check, and gate valves in bronze, iron and steel; also a full line of oilers, lubricators, grease cups, water and oil gauges, etc.

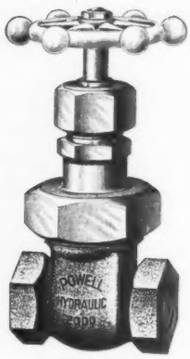



Fig. 178
Bronze Hydraulic
Gate Valve

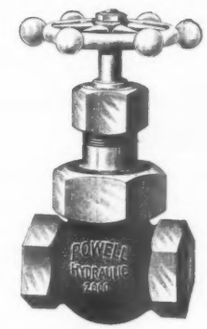



Fig. 175
Bronze Hydraulic
Globe Valve

Fig. 102
Bronze "White Star"
Globe Valve

Fig. 1430
Iron Body Gate Valve

*Carried in stock and distributed by*

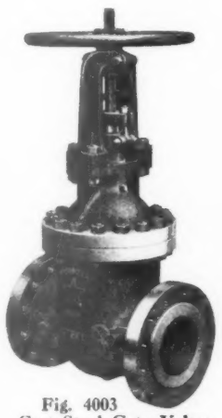


Fig. 4003
Cast Steel Gate Valve

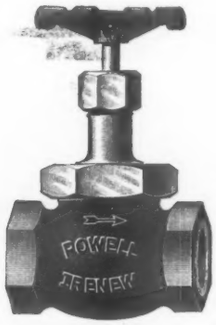


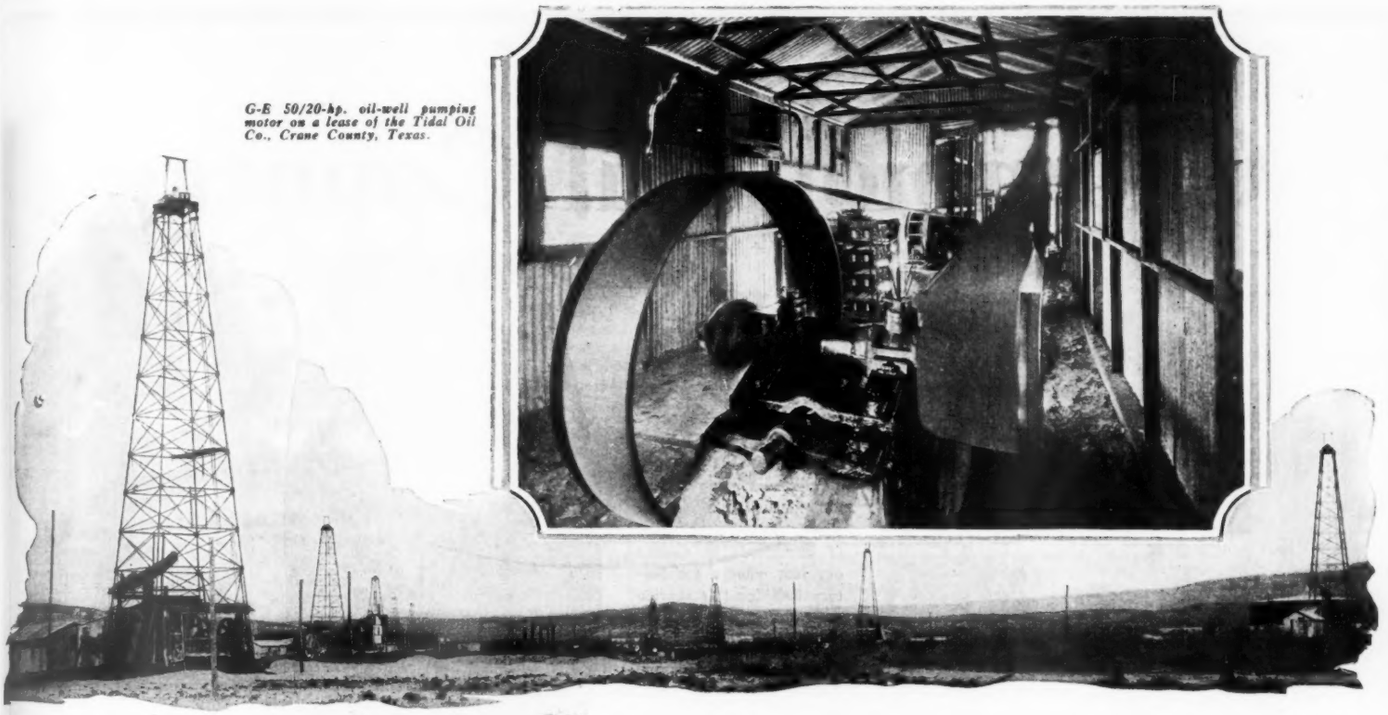

Fig. 190
Iron Body "Irenew"
Globe Valve

## Republic Supply Company

GENERAL OFFICES - HOUSTON, TEXAS

OIL AND GAS WELL SUPPLIES

ROTARY AND CABLE TOOLS



*G-E 50/20-hp. oil-well pumping motor on a lease of the Tidal Oil Co., Crane County, Texas.*

*Lane Lease, Texas Pacific Coal and Oil Co., McCamey, Texas. The nine wells shown are being pumped with G-E equipment.*

# Increase production 15%

## *Pump electrically*

Fifty-five days a year—15 per cent—is the average time lost by users of other forms of power. Shutdowns cost heavily—for the crude you might have pumped is gone forever.

G-E Type OMT two-speed motors are powerful aids in boosting production. They fulfill every requirement—pumping, pulling, bailing, cleaning, re-drilling—with economies in power and maintenance. Their successful performance is attested by the 200,000 and more horsepower installed in the last fifteen years.

Consult your nearest G-E office for information and helpful advice.

**General Electric supplies complete electric equipment to the oil industry. With warehouse facilities close to your operations, G.E. readily furnishes motors, controllers, transformers, arresters and other protective devices, capacitors for power-factor improvement, switching equipment, etc.**

**G-E oil field specialists at: Dallas, Denver, Houston, Kansas City, Oklahoma City, Tulsa, Los Angeles, San Francisco.**

**Motorized Power**
*—fitted to every need*

200-196

# GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y., SALES OFFICES IN PRINCIPAL CITIES

# Champion Oil Country Belting

Champion Oil Country Belting was made to stay on the drill rig or the power pump after years of experience in finding out just what a satisfactory belt for this service must do.

Ask for a sample of Champion Oil Country Belting and see for yourself why it will do any work in the Oil Field.

TWO points are noteworthy regarding the product shown above. First—It's the result of highly skilled craftsmanship, wide awake research, the best obtainable materials, and, a firm desire to produce something way above the ordinary from a service giving standpoint.

Second—In order that users may be properly served at the lowest possible prices it is marketed in the most direct and economical way—through Industrial Supply Distributors. *Specify* REPUBLIC.

**THE REPUBLIC RUBBER CO.**
**Youngstown, Ohio**

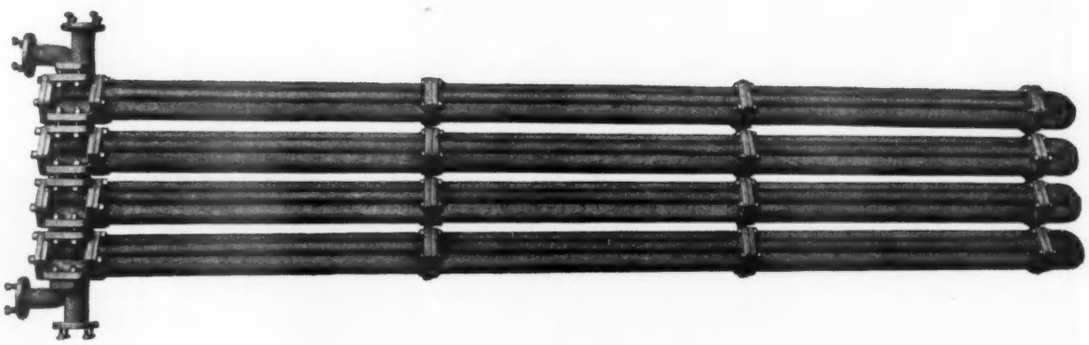
**Belting - Packing - Hose**
**Molded Goods - Lathe Cut Goods**

**REPUBLIC means the Best Mechanical Rubber Goods**

THE REPUBLIC RUBBER CO. YOUNGSTOWN-OHIO

# New!

## A heat exchanger or cooler for dirty or corrosive oils



# G-R TUBEFLO SECTION

*(Patent Applied For)*

Semi-steel construction throughout to withstand corrosion.

Easily cleaned straight smooth cored passages for liquids.

Can be arranged in stacks for flexible capacity and cooling effect.

High salvage value because readily dismantled, transported and erected.

Quick shipment of standard and interchangeable sections.

*Write for full information.*

HEAT EXCHANGERS
CONDENSERS
Sub-cooling—Partial—Reflux
Bell-and-Tube, Atmospheric, and Condenser Box Types
COOLERS
Liquid—Gas—Jacket Water
Bell-and-Tube, Atmospheric, and Condenser Box Types
OIL HEATERS
LEVEL CONTROLLERS

THE GRISCOM-RUSSELL COMPANY
285 Madison Avenue, New York

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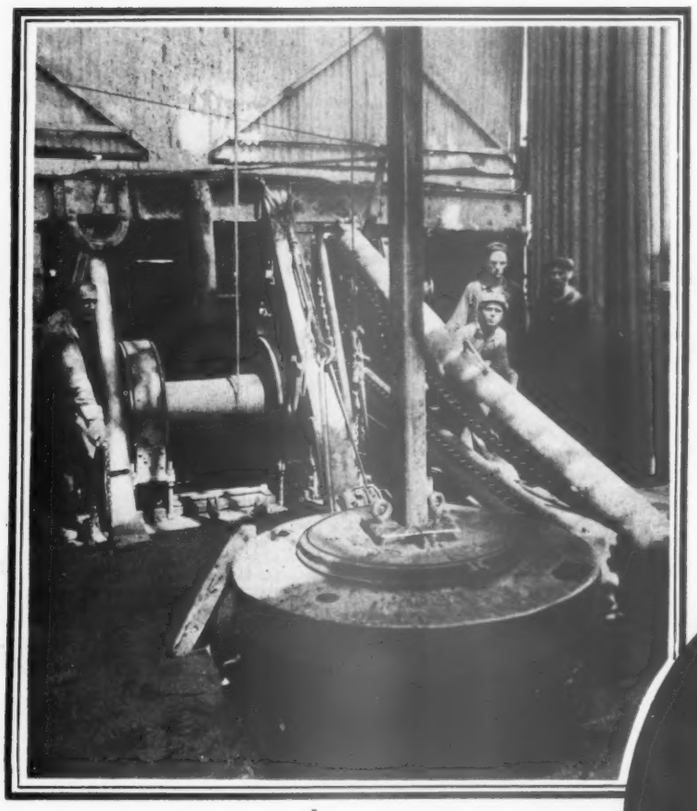
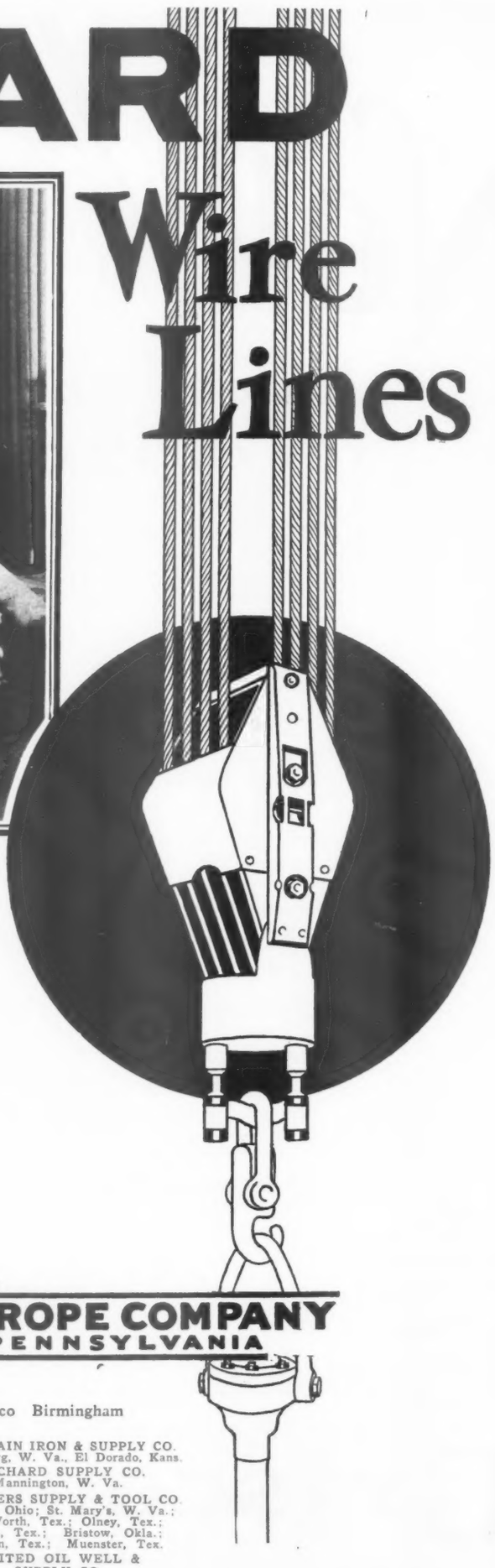
| Columbus | | | Dallas |

For Canada: Riley Engineering and Supply Co., Ltd., Toronto

# Griscom-Russell
## Heat Transfer Apparatus

# HAZARD Wire Lines





## *Thrive on the bends and increasing loads of rotary drilling*

EXTRA strength—and the ability to withstand constant bends without injury, are inherent qualities of Hazard Drilling lines.

Built especially for the increasing loads of rotary drilling, Hazard lines can be depended upon to return the utmost in rotary efficiency.

Let us send you complete information on the advantages of Hazard Wire lines for rotary drilling, and all other oil field requirements.

**HAZARD WIRE ROPE COMPANY**
WILKES-BARRE PENNSYLVANIA

1625 South Troost Ave., TULSA, OKLA.
New York Pittsburgh Chicago Denver Los Angeles San Francisco Birmingham

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PRODUCERS SUPPLY & TOOL CO.
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UNITED OIL WELL & SUPPLY CO.
Los Angeles

# For Your Next Tanks,
## Specify Toncan Iron

YOU know the cost of repairing or rebuilding storage tanks that have succumbed to the ravages of the weather or sulphurous corrosion. Strike at rust and corrosion before they cost you money. Build your tanks of Toncan Copper Molybdenum Iron.

Toncan Copper Molybdenum Iron is highly refined iron alloyed with copper and molybdenum. It is remarkably resistant to atmospheric and acid corrosion. In line pipe, corrugated sheets, metal buildings and other oil field applications, Toncan Iron outlasts ordinary iron and steel many times. Rivets of Toncan Iron are also available.

If you have any difficulty in securing tank plates of Toncan Copper Molybdenum Iron, get in touch with our nearest office. It will pay you to build your next tanks of Toncan Iron.

REG. U.S. PAT. OFF.
TONCAN
COPPER
Mo-lyb-den-um
IRON

CENTRAL ALLOY STEEL CORPORATION, *Massillon*, OHIO

*World's Largest and Most Highly Specialized Alloy Steel Producers*

*Makers of Agathon Alloy Steels*

Cleveland Detroit Chicago New York St. Louis Syracuse
Philadelphia Los Angeles Cincinnati San Francisco Seattle

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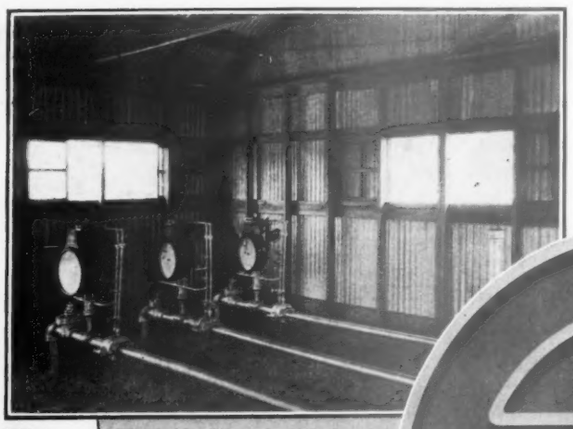


*Metric Orifice Meter Installations at Bowlegs, Okla.*

# Experience Leads METERS to Recognition

"Our selection of this type of meter for our air and gas lift stations was due to our past experience in measuring gas under all ranges of pressure and vacuum. We have found them to be accurate and a very substantial instrument; therefore, they have been entirely satisfactory."

WESTCOTT & GREIS, Inc.
*Sales Service*
Dallas TULSA Los Angeles

METRIC METAL WORKS
Div. of The American Meter Company, Inc.
ERIE · PENNSYLVANIA · U·S·A·

# METRIC orifice METERS

*Put SURE in MeaSUREment*

# *for*
# TOUGH JOBS
# *—use the LARKIN Bit Bottom*

The BIT type of Bottom was first manufactured by Larkin & Company at Butler more than ten years ago. This LARKIN Bottom breaks up the hard formations so efficiently that the pump may be operated at full capacity with very little delay.

The conditions recently encountered in the newer fields, such as the Panhandle Field in Texas, have greatly increased the popularity and use of the LARKIN Bit Bottom.

Equipped with the Regular Bottom for ordinary formations, and the Bit Bottom for hard formations, the LARKIN Improved Sand Pump will clean out more wells, for more years, than any sand pump made.

SOLD BY LEADING
SUPPLY STORES

*Send for circular and price list.*

*Made only by*

## LARKIN & CO.

at BUTLER, PA.

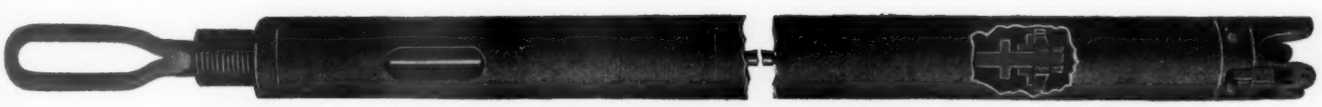
BIT BOTTOM

*This bottom is used for drilling and breaking the sand loose. Its chisel-shaped design is unique, prevents sticking, and allows successful operation in tightly packed sands.*

for REGULAR Jobs

Regular Bottom

*In the Larkin Regular Bottom, the legs are short—allowing the pump to rest as near the bottom of the hole as possible and still obtain the necessary suction to remove the greatest amount of sand and sediment quickly.*



# *The* LARKIN
# *Improved* SAND PUMP

# The School of Hard Knocks

## *Aids the Laboratories of Science*

THE truck of quality cannot be built on a drawing board. Neither the laboratory nor the shop alone can produce it. The task is accomplished only by sound experience, ripe engineering, and practical skill—a combination that comes of years of truck making.

At the two large plants where International Trucks are manufactured, every scientific test for quality and precision is a routine matter. All the knowledge the industry possesses is expertly applied. But these are not enough . . .

Experimental models of stock construction must be tried and punished to prove out designs and materials. International Harvester Truck manufacture has always embraced a strenuous policy of test and trial. A constant succession of trucks go to the testing fields to devote themselves to a life of violence in a school of hard knocks.

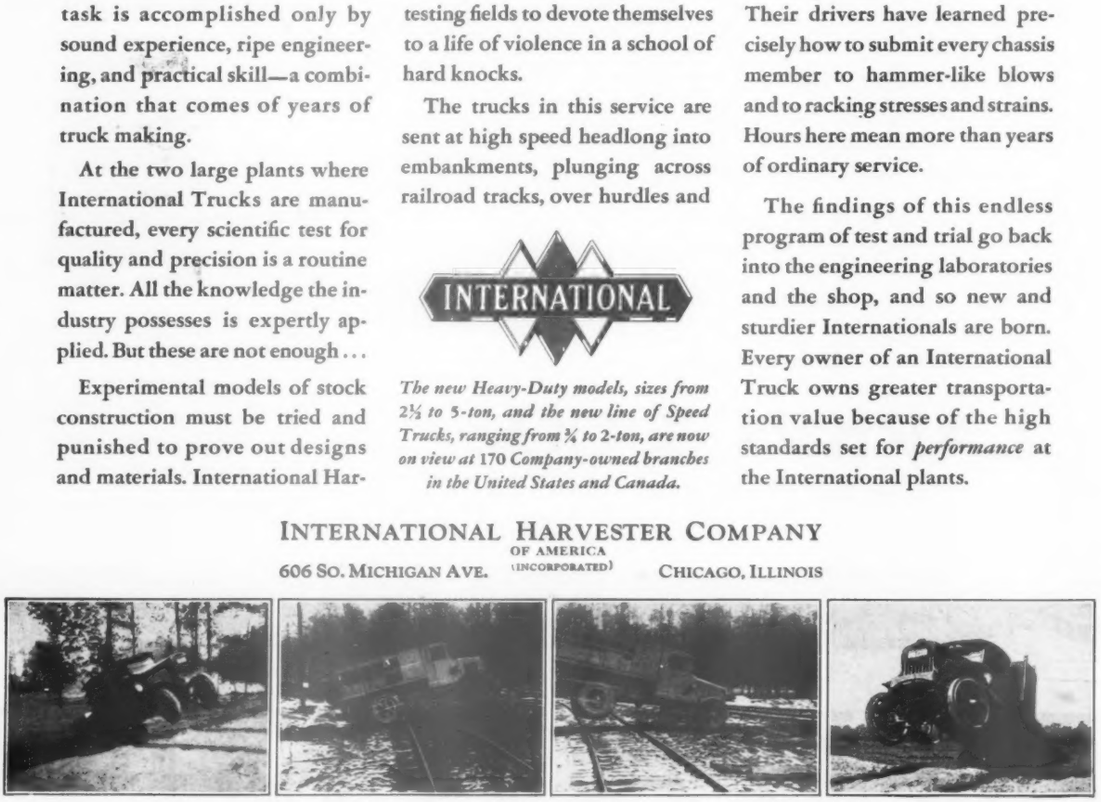
The trucks in this service are sent at high speed headlong into embankments, plunging across railroad tracks, over hurdles and barriers, through ditches and up hills. They suffer tortures in axle, engine, clutch, and gears, brakes, bearings, wheels, and frame. Their drivers have learned precisely how to submit every chassis member to hammer-like blows and to racking stresses and strains. Hours here mean more than years of ordinary service.

The findings of this endless program of test and trial go back into the engineering laboratories and the shop, and so new and sturdier Internationals are born. Every owner of an International Truck owns greater transportation value because of the high standards set for *performance* at the International plants.

INTERNATIONAL

*The new Heavy-Duty models, sizes from 2½ to 5-ton, and the new line of Speed Trucks, ranging from ¾ to 2-ton, are now on view at 170 Company-owned branches in the United States and Canada.*

INTERNATIONAL HARVESTER COMPANY
OF AMERICA
(INCORPORATED)
606 So. Michigan Ave. Chicago, Illinois



# DU PONT ANNOUNCES

# *a paint made especially for the petroleum industry— "general purpose" in scope*

***Petro Paint is highly resistant to sulphur fumes—adapted for systems for all types of surfaces***

THE petroleum industry has maintenance battles to fight unknown in any other field. On leasehold property, tanks, refineries, pumping stations—for a host of uses in transportation and marketing equipment, ordinary paints cannot stand the gaff. They blacken—become unsightly—everywhere soon deteriorate.

Now du Pont offers a line of paints scientifically made to solve just these problems—to meet economically your special requirements in beautifying and preserving your property. Petro Paint is a "special purpose" finish of wide adaptability in your industry—not only for wood, but for systems applicable to metal, plaster, concrete—to all types of surfaces.

### *Du Pont chemists develop remarkable new formula*

Paints based on white lead blacken rapidly under sulphur fumes. Lithophone used alone fails by excessive chalking and mildewing. Zinc oxide used alone causes cracking. Eventually, after extensive experiment, du Pont scientists decided on the prime pigment portion of Petro Paint: lithophone, zinc oxide and titanium oxide pigment. Inert pigment was added to give greater durability. Field and laboratory tests determined the proportions to bring out the most desirable features of each element.

A fundamental study of driers was made. A vehicle was developed which overcame many difficulties hitherto unsolved. Ease of brushing was attained. Petro Paint sets a completely new standard for beauty, efficiency and economy.

### *7 reasons why Petro Paint solves your problems*

Consider these characteristics of Petro Paint as applied to your own specific painting problems:

1. Petro Paint is highly resistant to sulphur fumes and aqueous vapors.
2. It is adapted for systems designed for all types of surfaces.
3. On tanks it curtails evaporation. It has the remarkable quality of retaining its original brilliance and cleanliness for a long period of time without fading.
4. It has greater durability under any conditions.
5. It leaves a good surface for repainting.
6. It can be applied under adverse temperature conditions. It does not crawl on cold surfaces.
7. It hides better than other mixed paints—is very economical.

Petro Paint gives you an opportunity to use *color* effectively wherever you wish.

### *Send for further information*

If you will send the attached coupon or write on your business letterhead, we will send you our Technical Bulletin No. 4 and full data about the Petro Paint line. Du Pont technical men are always available to study your specific finishing problems.

### *Mail this coupon*

E. I. du Pont de Nemours & Co., Inc.
Petroleum Division, Dept. OG-1, Parlin, N. J.

Send me your Technical Bulletin No. 4 and further data about Petro Paint as applied to my problem.

Name.....

Firm.....Position.....

Address.....

DU PONT
REG. U.S. PAT. OFF.

# PETRO PAINTS

# A *Marathon* Walking Beam

WOULD you drive an automobile with wooden axles? Of course you wouldn't.

And the day of the wooden walking beam is rapidly passing, as evidenced by the increasing interest shown throughout the industry in the DREADNAUGHT STRUCTURAL STEEL WALKING BEAM WITH INTERNAL TRUSS-BRACE.

STEEL is the thing. Every DREADNAUGHT is made for a walking beam Marathon and no wood beam can hope to compete in any way. DREADNAUGHT BEAMS are not to be confused with the more or less flimsy devices which whip and vibrate under heavy loads, and which can not be properly counterbalanced for pumping.

**Dreadnaught Products**

DREADNAUGHT BEAMS are absolutely rigid, there isn't anything to wear out, and the top is free for the use of counterweights.

Illustrated literature, sizes and prices may be had from the friendly Frick-Reid Store in your field, or direct from our Tulsa Office.

# FRICK REID
## SUPPLY CORPORATION

*QUALITY PRODUCTS ONLY*

**Pittsburgh, Pa.** **Tulsa, Okla.**

**Axelson Machine Co.**
*Sucker Rods, Pull Rods, Plunger Working Barrels (Pumps, Etc.)*

**Engineering Crews**
*For the installation of Pumping Powers and related equipment.*

**Donovan Boiler Works**
*Oil Country Boilers and Tanks.*

**Beaumont Iron Works Co.**
*Dreadnaught Rotary Equipment, Water-Cooled Draw Works, Pumping Hoists, Traveling Blocks, Etc.*

**Frick-Reid Service Belting**
*Rubber Covered and Friction Surface*

**Jones & Laughlin Steel Corp.**
*Seamless and Lapwelded Tubular Goods*

**Whitlock Cordage Co.**
*Manila Cordage, Including Frick-Reid Manila Bull Ropes —same quality for ten years.*

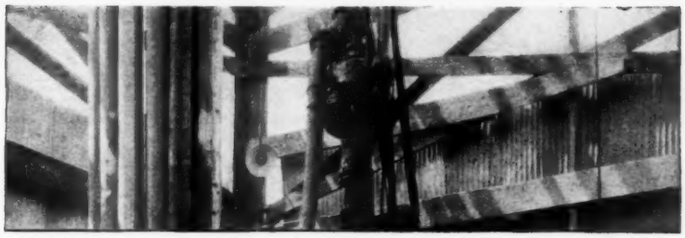
**National Transit Pump and Machine Co.**
*Power and Steam Pumps*

**Rossendale-Reddaway Co.**
*"Camel Hair" Belting, Belt Clamps*

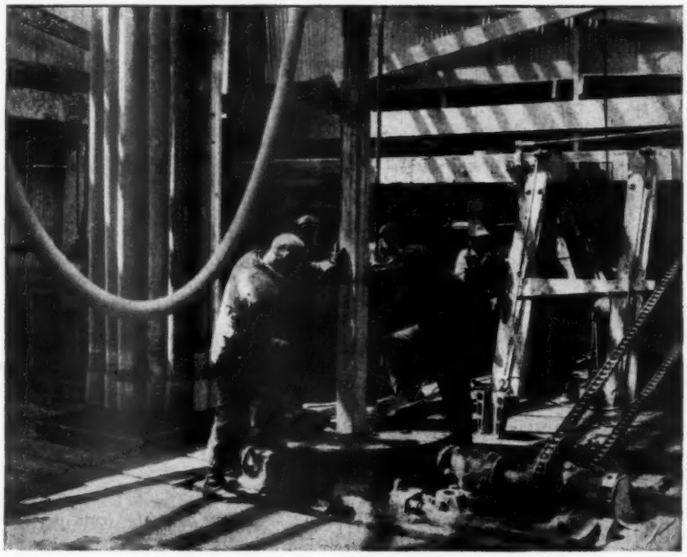
**Joseph Reid Gas Engine Co.**
*Gas and Oil Engines, two and four-cycle, Band Wheel and Direct Drive Pumping Powers*

**Walworth Company**
*Valves, Fittings and Tools for Steam, Water, Gas, Oil and Air.*

**J. P. Ratigan**
*Grips, Clamps, Beam Hangers*



# For Maximum Footage at Lowest Cost



***Goodyear Rotary Hose,*** on job after job, is the contractor's most dependable ally in obtaining maximum footage at lowest cost. For this standard hose is specially constructed to meet the service required.

***It is much stronger*** than ordinary hose. It holds, trouble-free, the tremendous pressures employed in forcing the mud column down the drill stem and in backing the slush water and the sand up to the surface.

***It is remarkably flexible too,*** yielding easily with the play of the tools. And it is reinforced at the end with two extra plies thus providing plenty of support for the couplings.

***It resists the abrasive action*** of gritty and oily mud. It staunchly endures the persistent punishment of daily usage. For not only is it toughly compounded throughout; its carcass is reinforced with concealed and close-spaced wire winding for extra protection against pressure.

***These special qualities*** of design and construction insure the superior serviceability and lasting economy of Goodyear Rotary Hose. They guarantee that Goodyear Rotary Hose, like all other Goodyear products, will protect our good name.

**TRANSMISSION BELTS—*Cord Oil Well, Thor Oil Well, Goodyear, Wingfoot*•HOSE—*Air, Water, Steam, Gasoline, Fire, Mill*•OIL SUCTION *or* DISCHARGE HOSE•ROTARY HOSE•PACKING—*Asbestos and Rubber Sheet for both field and refinery service*•PUMP VALVES•SLUSH PUMP SLEEVES•SWAB RUBBERS.**

***The Greatest Name In Rubber***

GOODYEAR

Copyright 1929, by The Goodyear Tire & Rubber Co., Inc.

# COMPLETELY FRAMED

A section of the framing yard at the Texarkana Plant

## SPEEDS UP CONSTRUCTION

***International*** Pine Poles are framed completely before treatment; never after treatment.

A corps of experienced pole framers is maintained at each plant so that poles in any quantity or size can without delay be framed to conform to the user's specifications.

Regardless of how complex the framing stipulations may be, ***International*** Poles reach destinations ready to go into the hole. This saves to ***International*** patrons all extra handling and framing expense either at the patron's concentration yards or in the field.

Poles ready for installation certainly speed up construction and reduce costs.

**International Creosoting & Construction Co.**
General Office: Galveston, Texas
Plants: Beaumont — Texarkana — Galveston

Distributed by GraybaR ELECTRIC COMPANY

A section of the framing yard at the Beaumont Plant

**International Creosoted Yellow Pine Poles**

# 1,420,000 Horsepower!

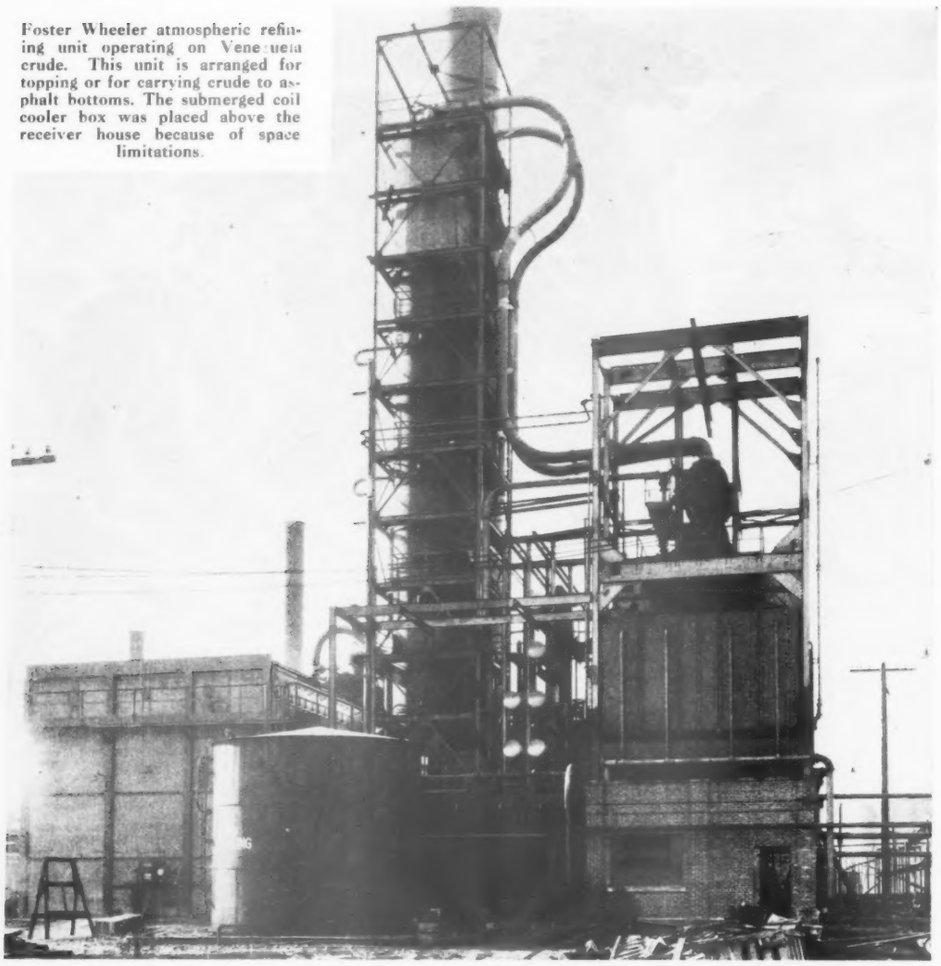
OUT to the far corners of the earth the exhausts of Bessemer's million four hundred and twenty thousand horsepower have sounded their "Song of Service". Into the teeth of the four winds they have hurled their challenge to Time, Wear and Abuse.

For thirty years Bessemers have been building a reputation of performance surpassed by none. During these thirty years this vast array of Bessemer horsepower has consistently *proved* its right to leadership—in engineering, in construction and in serviceability.

Get the most out of *your* oil field power equipment dollars by buying Bessemers—proved by a million four hundred and twenty thousand horsepower.

BESSEMER ENGINE COMPANY
York Street ∴ Grove City, Pa.

BESSEMER



Foster Wheeler atmospheric refining unit operating on Venezuela crude. This unit is arranged for topping or for carrying crude to asphalt bottoms. The submerged coil cooler box was placed above the receiver house because of space limitations.

# Compactness of Foster Refinery Equipment

The ability to adapt Foster refinery equipment to meet difficult space limitations is frequently of vital importance in modernizing existing plants.

The design of Foster Wheeler refinery equipment possesses such a high degree of flexibility that it is readily adaptable to the most exacting space requirements.

The installation shown consists of tubular still, tower, heat exchangers, control system and receiving house. It has the capacity to handle 15,000 barrels per day. Space limitations were a decided factor in the arrangement of this unit.

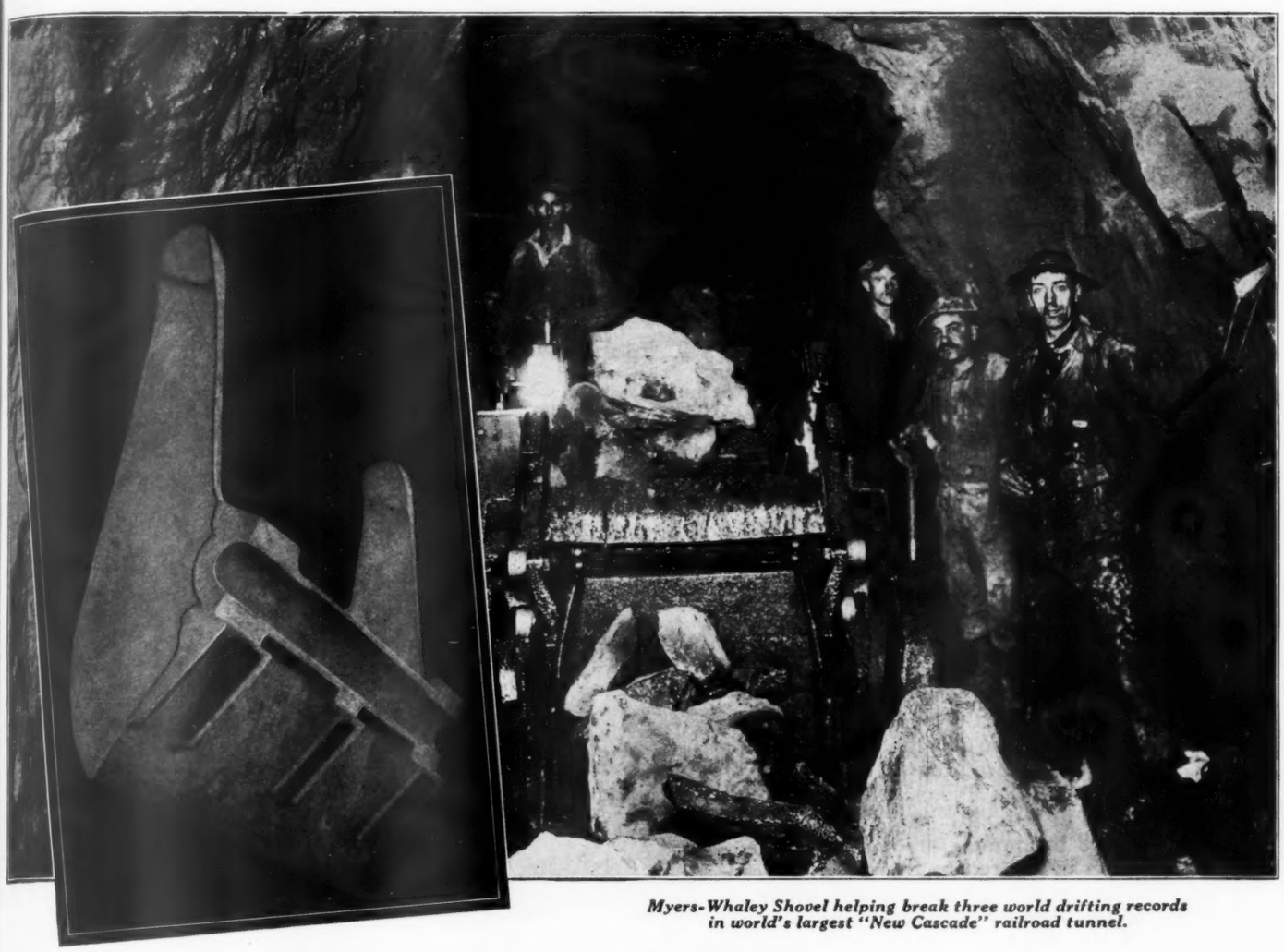
FOSTER WHEELER CORPORATION
165 Broadway, New York, N. Y.

*Branches in Principal Oil Centers*

*Foreign Associates:*

Foster Wheeler Limited, London, England.
Foster Wheeler Limited, Toronto-Montreal-Vancouver, Canada.

# FOSTER WHEELER



*Myers-Whaley Shovel helping break three world drifting records in world's largest "New Cascade" railroad tunnel.*

# Through Solid Granite
# — *To Three New World Records*

**Tunneling through solid granite, at world record-breaking speed, is "all in a day's work" for Myers-Whaley Mucking Machines. Withstanding the hard shocks and steady grind of this difficult work are parts cast from Sivyer Alloy Steel, where the strains are greatest.**

**Sivyer castings are chosen for such tough jobs because Sivyer foundry practice assures castings that are true to form and formula — and because Sivyer castings are free from ordinary foundry defects that are so often fatal, on hard work of this kind.**

**Fifteen years' experience casting alloy metals has given Sivyer the most complete line of standard alloys in the world — to meet such rigid requirements.**

# SIVYER STEEL

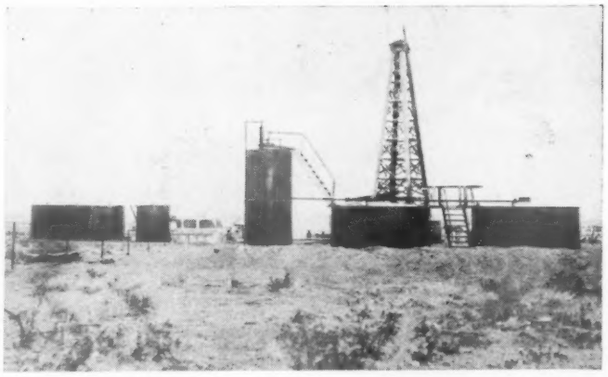
**SIVYER STEEL CASTING COMPANY, MILWAUKEE**

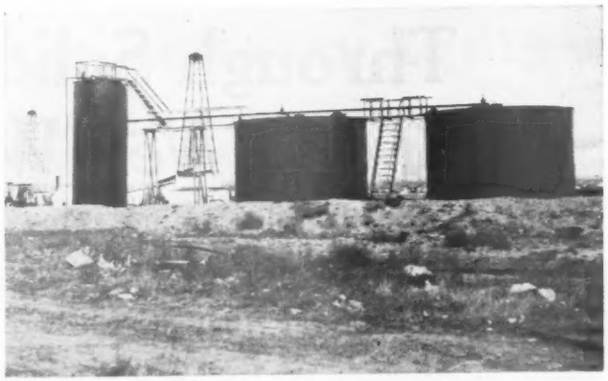
# BUTLER BOLTED TANKS AND BUTLER PRESSURE TANKS *in Best, Texas*

LIKE all Butler Bolted Tanks those pictured here are assembled from larger than the ordinary run of bolted tank sheets. Hence, there are fewer seams per tank—fewer operations in erection. Bolt holes are uniform as to size and spacing. Huge machines place them in each sheet at one stroke. No chance for variation in template, one sheet compared to another or one side of a sheet compared to the other side. They positively match any other sheet formed for the same size Butler Tank.

Man-sized clean out openings, two feet by four feet are standard on Butler Bolted Tanks. And the bolts are removable from the outside.

The pressure tanks of the batteries pictured are Butler Vapor Pressure bolted. Sizes 14′ 11″ in diameter and smaller withstand a pressure of 2 pounds and a vacuum of 4 ounces. Butler Welded Vapor Pressure Tanks are recommended for more difficult pressure conditions.





"Butler Oil Field Tanks" is a catalog about Bolted Tanks up to 25,000 barrels capacity and welded tanks made to any specifications. A copy was printed for your use.

**BUTLER MANUFACTURING COMPANY**

KANSAS CITY, MO. MINNEAPOLIS, MINN.

*Butler Products include: READY-MADE Steel Buildings, Cans, Funnels, Buckets, Measuring Pumps, Truck Tanks, Underground Tanks, Storage Tanks, Bolted Tanks, Etc. Pipe that can be used as conduit, double well casing or for other purposes.*

*These reliable dealers are ready to render speedy Butler Bolted Tank service:*

Drane-Humphrey Co., at San Angelo, Big Lake, Pyote and McCamey, Texas, and Roswell, New Mexico.

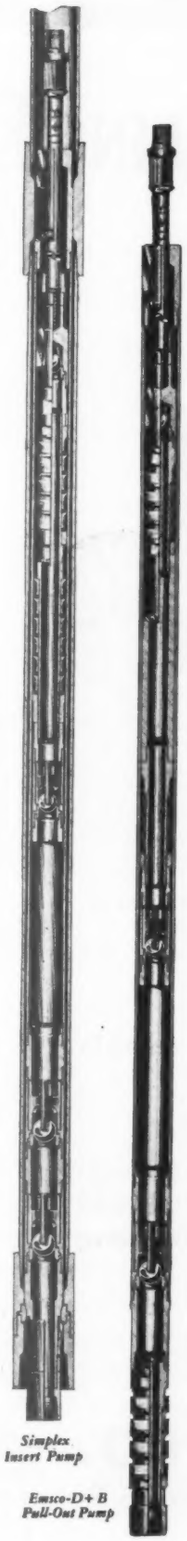
Drane Tank Co., at Tulsa, Holdenville, Seminole, Hallett and Shawnee, Oklahoma; El Dorado and Madison, Kansas.

Keyes-Butler Tank Co., at Casper and Cody, Wyoming.

Thomas Moran, at Oil City, Shreveport and Georgetown, Louisiana.

Edward J. Baker & Co., 10 S. La Salle St., Chicago, Ill.

Muskegon Boiler Works, Muskegon, Michigan.



Simplex Insert Pump

Emsco-D+B Pull-Out Pump

# D+B Insert Type Pumps

## "pull with the rods"

### D+B SIMPLEX INSERT PUMP

The D + B Simplex Insert pump has proved its worth by its increasing popularity with oil field operators. It is particularly adapted to deep-well pumping; is a time saver for the production crew; eliminates pulling the tubing when changing pumps; and assures low cost of operation. When the last stand of rods is pulled all working parts are on the derrick floor, ready for inspection or replacement. Gas locks are prevented by placing the bottom valve close to the standing valve on the down stroke. A simplified one-piece valve rod guide is used at the top of the pump. The outside of this guide is tempered and ground and fits into the pump head, thus forming a tight seal against the downward passing of fluid or sand.

### EMSCO-D+B PULL-OUT PUMP

The Emsco-D+B Pull-Out pump is especially adapted for use as a replacement pump for the regular liner type of pump. After a regular liner pump is worn out, the operator, by pulling his plunger and standing valve on the rods in the usual manner, attaches the complete assembled Emsco-D+B Pull-Out pump to the rod string and runs it back into the hole. The Emsco-D+B pump is provided with a lower cup extension on the working barrel, which automatically anchors and seals in the top liner of the worn out liner pump. In this way the well is again in operation much more quickly than if the entire tubing string had been pulled and the liner pump replaced. The general construction of the Emsco-D+B pump is of the same high quality as the D+B Simplex pump, embodying the same plunger construction, blind cage, ball guides, and other standard high-grade features of the D+B Simplex pump. The capacity is identical with other pull-out pumps of comparative sizes. Provision is made for a gas anchor attachment below the standing valve, if such is desired.

EMSCO — A Complete Line of Better Oil Well Equipment

D+B — A Complete Line of Better Pumping Equipment

Preferred by Steel

EMSCO EQUIPMENT

EMSCO DERRICK & EQUIPMENT COMPANY
LOS ANGELES, CALIF., HOUSTON, TEXAS-DALLAS, TEXAS
U. S. A.

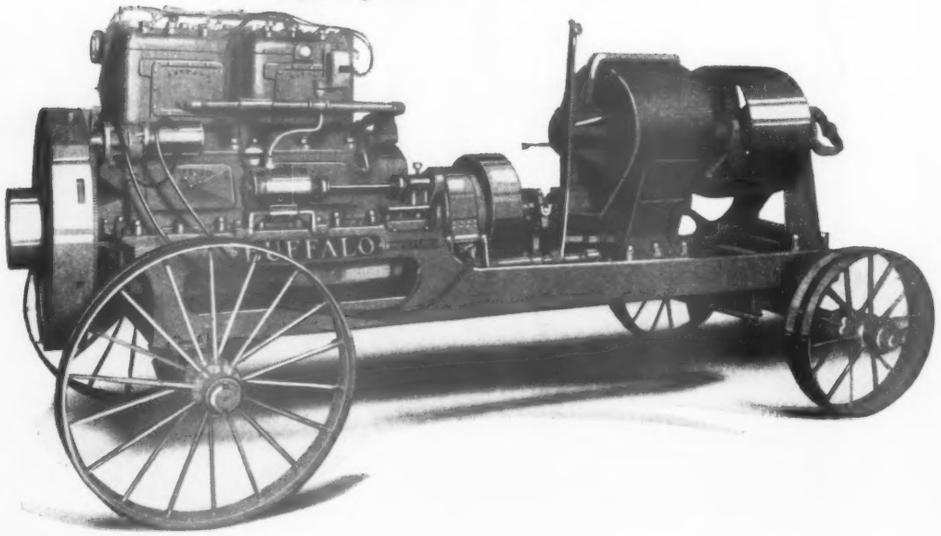
EXPORT OFFICE: 150 BROADWAY
NEW YORK CITY, N. Y.
U. S. A.

*All Emsco products (except derricks) sold exclusively in Mid-Continent fields by*
CONTINENTAL SUPPLY COMPANY

EMSCO STEEL EQUIPPED WELLS ARE SAFE

# "OVERSIZE"

## EXPRESSES THE Buffalo DRILLING ENGINE




"Buffalo" **Has high factor of safety built into its parts.**

"Buffalo" **For years has built the most sturdy, reliable and dependable drilling engines.**

"Buffalo" **Drilling unit is not an experiment but the outcome of a thorough knowledge of oil field requirements and experience in building engines.**

*Let us send you complete information on the Buffalo Drillers.*

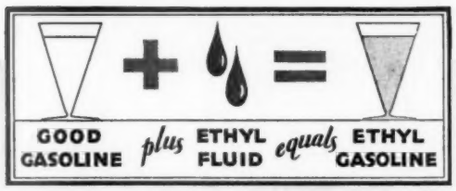
**BUFFALO GASOLENE MOTOR CO.**

**1282-1292 Niagara Street** **Buffalo, N. Y.**

*Sales and Service Stations*

ABILENE, TEX. R. H. Shields
BRADFORD, PENNA. R. R. Reck
EL DORADO, KANS. R. H. Shields
McCAMEY, TEX. R. H. Shields
MIDLAND, TEX. R. H. Shields
KITTANNING, PENNA. Louden Tool Co.
MANNINGTON, W. VA. The Prichard Supply Co.
PARKERSBURG, W. VA. Parkersburg Rig & Reel Co.
WAYNESBURG, PENNA. The Prichard Supply Co.

ENGINE OF CONSTANT SERVICE
POWERED BY Buffalo



(c) E. G. C. 1929

# "Why do I want Ethyl?

## ...I'll tell you Why"

HE *was offered "something just as good"—but* "I want Ethyl because I know it's worth the extra money," he said. "It has tetraethyl lead in it to keep out the 'knock' and Ethyl makes my car run better than any fuel I have ever tried."

People who once ride with Ethyl, stick to it. And they number an army which is growing every day. Leading oil companies now have Ethyl pumps at thousands of filling stations.

The motor car industry is introducing new models of higher compression whose extra performance is dependent on a fuel of Ethyl's anti-knock quality. The owners of cars of ordinary compression are also enjoying better performance with Ethyl, since carbon formation automatically raises their compression.

Or, in the words of the Ethyl-user quoted above: "I use Ethyl for pleasure and economy. It gives me a real kick in driving; I worry less about the fellow behind; and there's less wear and tear on me and my engine after a long run. You ought to try Ethyl too."

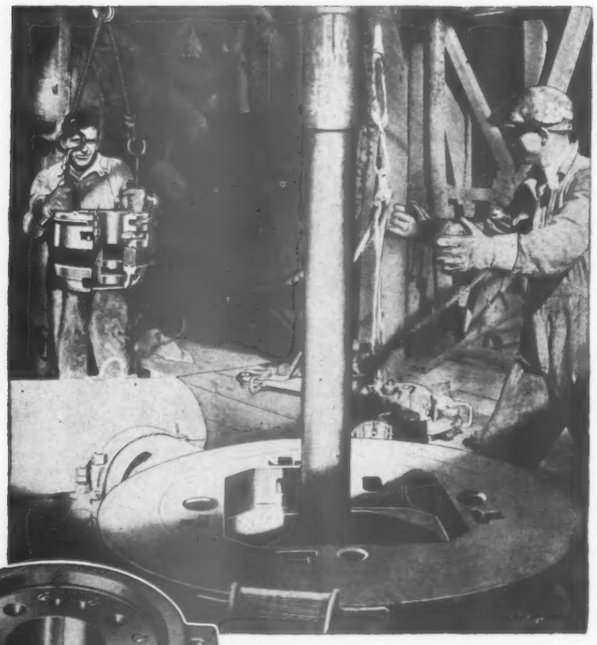
ETHYL GASOLINE CORPORATION

25 Broadway, New York City 56 Church St., Toronto, Can. 36 Queen Anne's Gate, London, Eng.

# ETHYL GASOLINE

# Now --

# a *faster* Blowout Preventer



*. . . Built for Santa Fe Springs where warning comes split seconds before disaster!*

THOUSANDS of Baash-Ross Hosmer Blowout Preventers have given dependable protection for years in oil fields all over the world.

But Santa Fe Springs demands a *swifter*, more *automatic* defense against tremendous pressures than the industry has ever needed before!

Here it is—already safeguarding many of the field's wildest wells!

In the cellar, mounted on the casing, is the forged steel preventer body and lip ring. Over the derrick floor the packing assembly is hung —*complete*, rings in place, no additional parts required.

At the first ominous rumble—a swing, a snap, and the packing assembly slides down the drill pipe, clicks home under the lip ring—set a tool joint or collar down on it, or tighten the lip ring—the well is sealed—safely, permanently! And all in a split second!

J&L PIPE B-R

## BAASH-ROSS TOOL COMPANY

***General Offices and Plant 5512 Boyle Avenue***
***Box 1110 Arcade Station, Los Angeles***

District Offices: Houston, *1816 Nance St.*—Tulsa, *International Supply Company* and *Lucey Products Corporation*—Export Office, *30 Church Street*, N. Y.

*Field Shops equipped for 24-hour supply and mechanical service at Long Beach . . . Brea . . . Ventura . . . Taft*

**Baash-Ross Tool Company,**
*Box 1110 Arcade Station, Los Angeles*

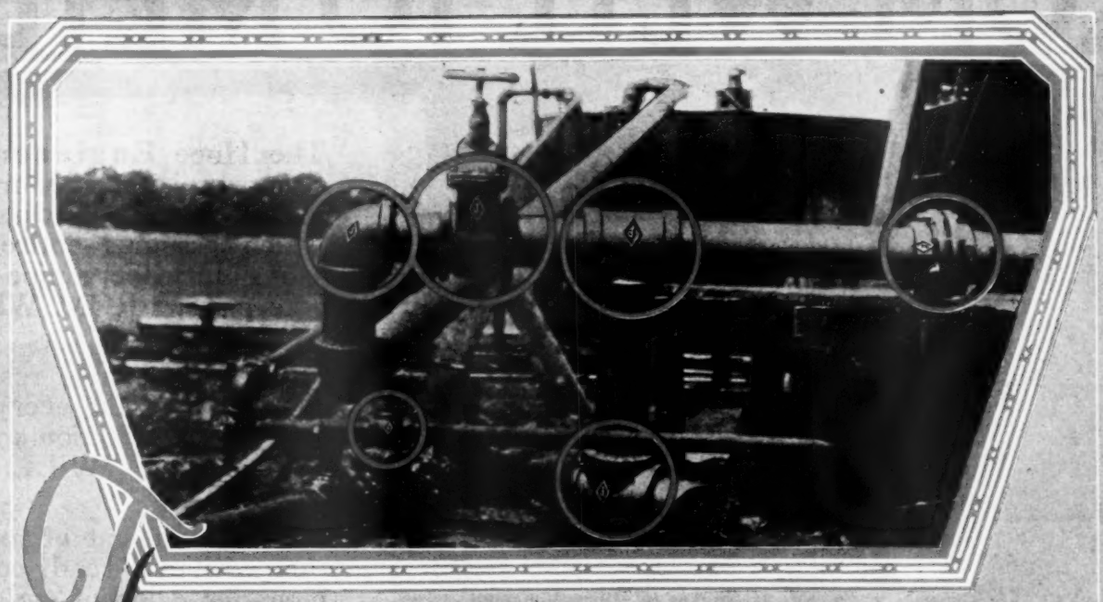
**Gentlemen: Please send, without charge, Bulletin 8a describing the Hosmer *Automatic* Blowout Preventer.**

**Name**_____

**Company**_____

**Address**_____

Oil and Gas Jrnl., Feb. 28, 1929



# There will be no leaks in this flow line

## JARECKI VALVES AND FITTINGS ARE USED

The builder of this flow line, like most other builders of flow lines, wanted primarily a durable, trouble-free and leak-proof line—valves that seat properly, operate easily and shut tightly; fittings of uniform thread, fit, structure and tightness.

Experienced oil men will agree that in selecting JARECKI Valves and Fittings he adopted one of the most dependable of all methods of being sure that his requirements would be fulfilled. It is but natural that buyers should come to expect unusual service from products embodying the mechanical and metallurgical knowledge that seventy-seven years' experience represents.

. . . . The steady growth of the JARECKI company is the best indication that these buyers are never disappointed.

Jarecki

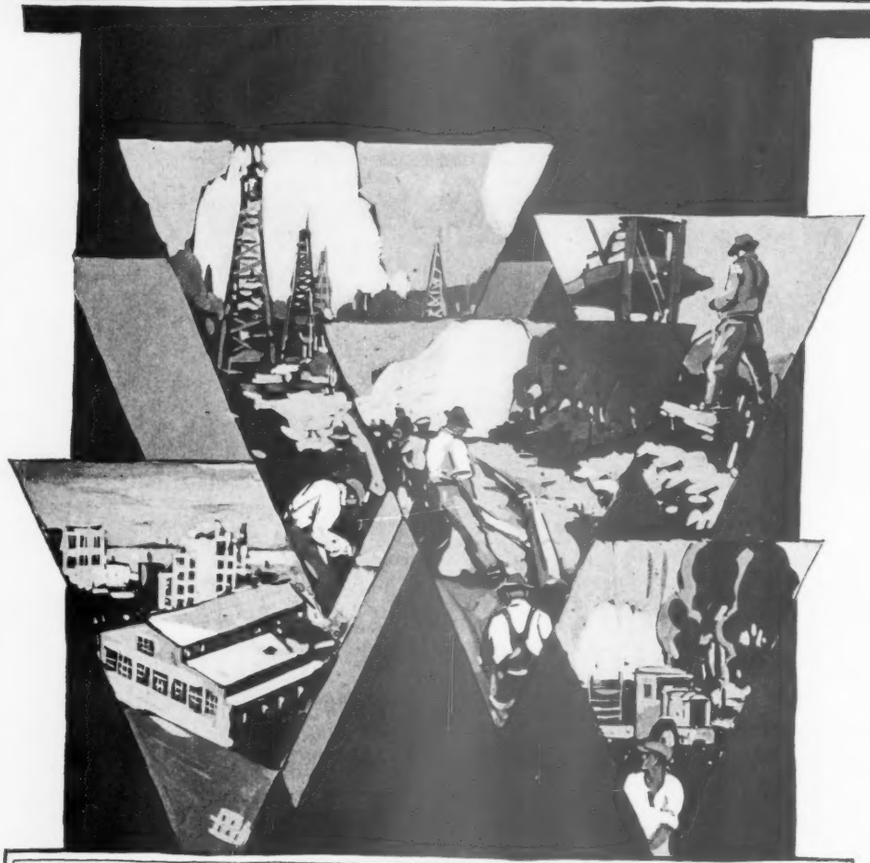
MANUFACTURING COMPANY

General Office, St. Louis, Mo. Home Office and Factory—Erie, Pa., U. S. A.

Branch stores at all important places in the Oil Country.

District Offices { Pittsburgh, Pa.; El Dorado, Kan.; Tulsa, Okla.; Newark, Ohio; Eastland and Dallas, Texas; Lawrenceville, Ill.

# FROM WELL TO METER



The Hope Engineering Company is the only organization in the industry which assumes entire responsibility for a pipe line enterprise, FROM WELL TO METER.

One contract—one responsibility—covering every detail of a construction operation, FROM WELL TO METER.

One all-sufficient organization, with ever-ready equipment for a job of any size whatever, prepared at a moment's notice to handle any problem in natural gas transmission and distribution FROM WELL TO METER.

No divided responsibilities—no sub-contracts—no delays or misunderstandings—no arguments—but a disciplined construction staff accustomed to success and concerned only in doing the job on time and right, FROM WELL TO METER.

Put your pipe line problems up to the firm that has successfully handled the most notable pipe line achievements in the past 22 years.

HE 100

HOPE

ENGINEERS CONTRACTORS

HOPE ENGINEERING COMPANY

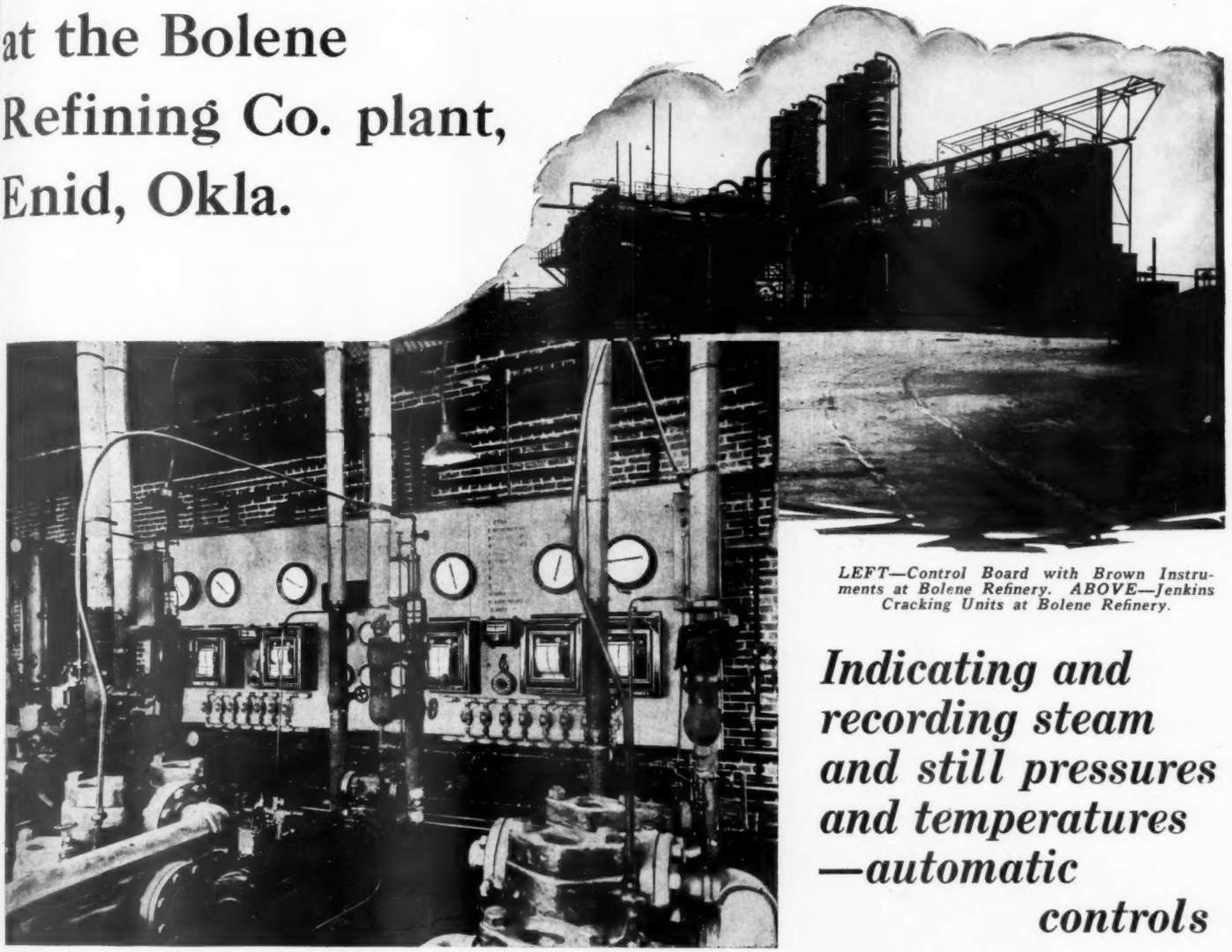
DESIGNERS MANUFACTURERS

MOUNT VERNON, OHIO, U.S.A.

NEW YORK, N.Y. DALLAS, TEX. TULSA, OKLA. CASPER, WYO. HOUSTON, TEX. SHREVEPORT, LA. LOS ANGELES, CAL.

# Controlling Cracking Stills

## at the Bolene Refining Co. plant, Enid, Okla.



*LEFT—Control Board with Brown Instruments at Bolene Refinery. ABOVE—Jenkins Cracking Units at Bolene Refinery.*

***Indicating and recording steam and still pressures and temperatures —automatic controls***

HERE is an interesting instrument set-up for controlling the operation of Jenkins cracking stills at the Enid, Okla., plant of the Bolene Refining Company.

The installation includes:

Indicating and recording pressure gauges for checking still and steam pressures.

Automatic control type recording pyrometers for recording and controlling operation of bubble and reflux towers.

Indicating pyrometers with moistureproof switches for checking various temperatures in the stills, towers, furnaces, stacks, re-boilers and downcomers.

Special checking distribution boxes to facilitate checking of thermocouples and instruments while still on stream.

Supplying and applying modern instruments for indicating, recording and controlling temperatures, pressures, flow, liquid level and $\%CO_2$ for refinery applications is a field in which this organization enjoys the confidence of the leading refiners and builders of stills and towers.

*Write for Information or Consultation*

THE BROWN INSTRUMENT COMPANY
4488 Wayne Avenue, Phila., Pa.
*Branches in 20 principal cities*

# Brown Automatic Controls

"To measure is to economize"—*PASCAL*

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# California Big Factor in Oil Situation

**Highest daily average estimated total production in 1928, week ended Dec. 29, 2,585,844 bbls. Lowest in 1928, May 19, 2,338,241 bbls.**

## Development of Deeper Zones at Santa Fe Springs Largely Responsible for Big Gain in Production Since Dec. 1

By Andrew M. Rowley

**Highest daily average estimated light oil production in 1928, week ended Dec. 29, 2,158,134 bbls. Lowest in 1928, Mar. 3, 1,927,713 bbls.**

California has been and is one of the most important factors contributing to the overproduction situation and operators in that area who are endeavoring to hold production there more nearly to market requirements should receive the earnest and whole-hearted support of the entire industry. Development of deeper producing zones, especially at Santa Fe Springs, is chiefly responsible for the big increase in production for the country as a whole registered since the first of last December.

For the week ending December 1, 1928, production of light oil in California averaged 478,250 barrels daily and that of heavy oil, 191,750 barrels daily, a total of 670,000 barrels a day. Last week production of heavy crude in California averaged 191,500 barrels daily, practically the same as for the week ending December 1 last, but the output of light oil averaged 613,500 barrels daily, production for the whole State averaging 805,000 barrels a day, an increase of 132,000 barrels a day over the average for the week ending December 1. During that same period, Santa Fe Springs registered a gain of 135,000 barrels daily.

Production in Oklahoma last week averaged about 5,500 barrels daily less than during the week ending December 1, while that of West Texas averaged about 50,000 barrels daily more, total average daily production for the United States as a whole being 176,334 barrels greater last week than for the week ending December 1.

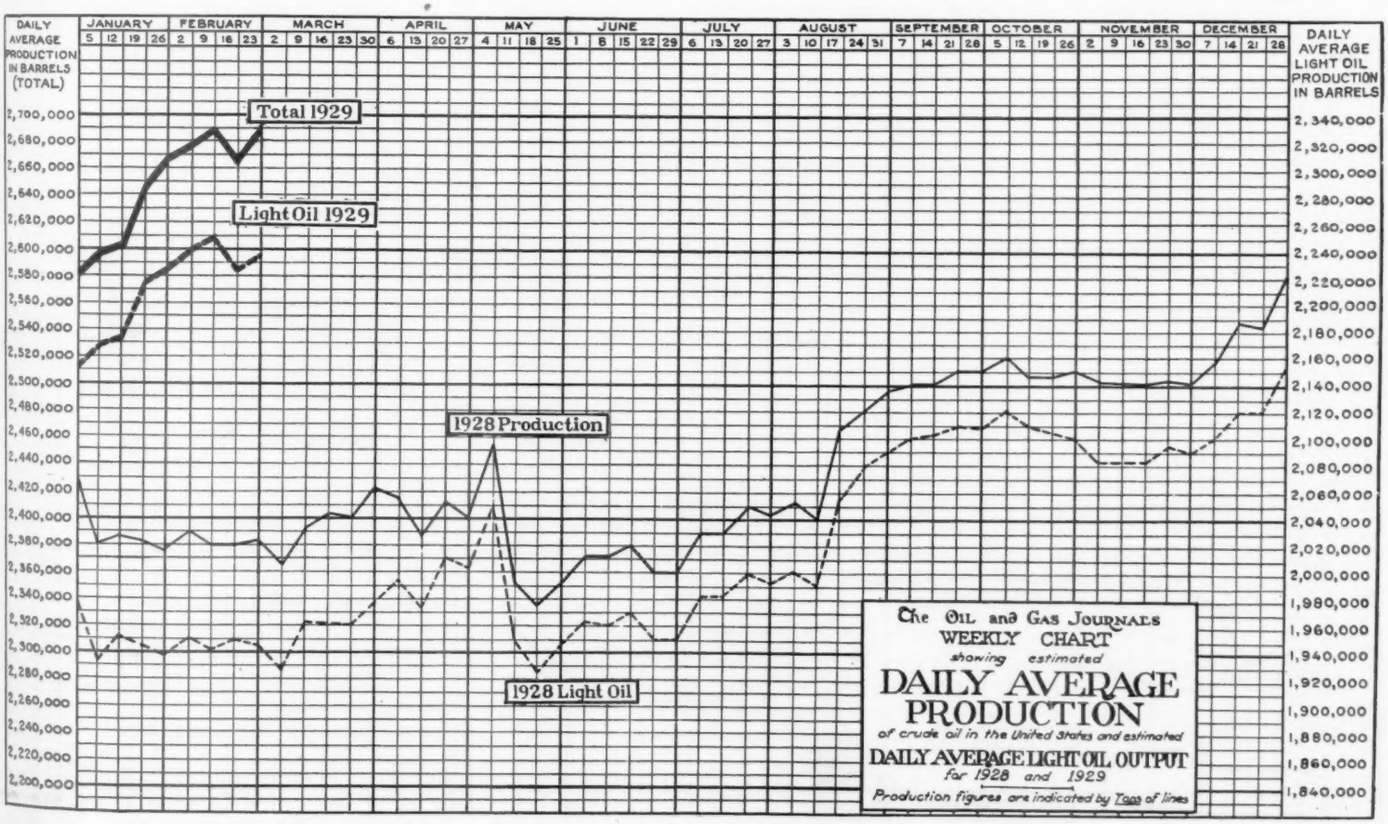
An effort is being made to reduce production in the Hendricks Pool by 50,000 barrels daily and it is felt Santa Fe Springs may have passed its first peak expected during this year. Consequently, the outlook at this time is brighter than for several months as Oklahoma operators are succeeding in preventing an increase in total output despite the opening of the Mission Pool and some decline should be registered during the next 30 days in California. It would aid the industry as a whole if operators in the Santa Fe Springs Field could prevent any extensive development of deeper zones there until there was a greater need for the crude.

### PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended February 23 and a comparison with the previous week follows:

| | Feb. 23 | | Feb. 16 | |
|---|---|---|---|---|
| | Light | Heavy | Light | Heavy |
| **Oklahoma—** | | | | |
| Tonkawa | 10,440 | ..... | 10,740 | ..... |
| Burbank | 22,165 | ..... | 22,135 | ..... |
| Other Osage Fields | 25,785 | ..... | 25,930 | ..... |
| St. Louis-Pearson | 108,330 | ..... | 122,885 | ..... |
| Cushing and Shamrock | 20,485 | ..... | 20,335 | ..... |
| Bristow | 18,880 | ..... | 18,910 | ..... |
| Allen | 27,475 | ..... | 27,290 | ..... |
| Seminole | 297,940 | ..... | 287,810 | ..... |
| Northern Miscellaneous | 114,910 | ..... | 114,615 | ..... |
| Southern Fields | 56,320 | ..... | 56,785 | ..... |
| Total Oklahoma | 702,730 | ..... | 707,435 | ..... |
| **West Texas—** | | | | |
| Hendricks | 170,453 | ..... | 164,831 | ..... |
| Yates | 83,572 | ..... | 83,912 | ..... |
| Remainder | 126,406 | ..... | 123,396 | ..... |
| Total West Texas | 380,431 | ..... | 372,139 | ..... |
| North Louisiana | 29,264 | 5,820 | 30,295 | 5,850 |
| Arkansas | 25,060 | 51,050 | 25,795 | 51,045 |
| North Central Texas | 135,707 | ..... | 135,668 | ..... |
| Texas Panhandle | 55,200 | ..... | 52,850 | ..... |
| East Central Texas | 22,315 | ..... | 22,089 | ..... |
| Kansas | 95,410 | ..... | 95,840 | ..... |
| Total Mid-Continent Area | 1,446,117 | 56,870 | 1,442,111 | 56,895 |
| Gulf Coast | ..... | 142,087 | ..... | 141,170 |
| Southwest Texas | ..... | 58,687 | ..... | 51,174 |
| Eastern | 108,000 | ..... | 108,000 | ..... |
| Rocky Mountain Area | 68,736 | ..... | 73,168 | ..... |
| **California—** | | | | |
| Santa Fe Springs | 205,000 | ..... | 194,000 | ..... |
| Long Beach | 178,000 | ..... | 178,000 | ..... |
| Torrance | 2,000 | 12,500 | 2,000 | 12,500 |
| Huntington Beach | 47,000 | ..... | 47,000 | ..... |
| Elwood | 21,000 | ..... | 22,000 | ..... |
| Inglewood | 15,500 | 11,000 | 16,000 | 11,000 |
| Ventura Avenue | 55,000 | ..... | 54,500 | ..... |
| Seal Beach | 32,000 | ..... | 32,000 | ..... |
| Remainder of State | 58,000 | 168,000 | 58,000 | 168,000 |
| Total California | 613,500 | 191,500 | 603,500 | 191,500 |
| Total United States | 2,236,353 | 449,144 | 2,226,779 | 440,739 |
| Grand Total | | 2,685,497 | | 2,667,518 |

**Total Increase, 17,979 Bbls.; Light Oil Increase, 9,574 Bbls.**



# Refinery Market Continues Strong

## Prices on Oklahoma Fuel Oils, Gas Oils, Distillates and Kerosene Higher. Better Feeling as to Refinery Gasolines

By C. O. Willson

The refinery market in Oklahoma (Group 3) continued to show improvement during the past week with price advances in several products.

In response to a continued strong demand for furnace oils all fuel oils, gas oils and distillates which could be used as fuel for domestic burners were scarce and prices higher. The market on these products the first of the week was in the hands of the sellers so far as Oklahoma was concerned. Jobber buyers apparently were not prepared with adequate storage to back up the large increase in consumption due to the cold weather of the past six weeks in the middle western states and were asking for immediate shipment.

Provided the product was suitable as to specifications and prompt shipment could be given, these buyers were not concerned as to price. Many of the refiners were already sold up for the month and in order to take on additional business they were making changes in their plant operations. In a few cases, refiners are reducing their kerosene cut in order to obtain a larger yield of the better grades of distillates.

On Monday and Tuesday any grade of 36 to 40 straw distillate of low cold test and flash with good odor could bring a minimum of 4¼ cents on the Oklahoma market with sales as high as 4¾ cents reported. Gas oils and the higher gravity fuels shared in this heavy demand and for the first time in several months all grades of fuel oil except the low gravity high cold test grades were advanced.

In regard to fuel oils it is practically impossible to establish market schedules based on gravity. A 24 gravity fuel oil of low cold test in some cases sold higher than a 26 or 28 gravity product of high cold test. Sales of the 28-30 fuel oil of low cold test and low flash sold as high as $1.25 per barrel during the week. Despite this strong market for the specialty fuels, the high cold test grades sold as low as 50 cents a barrel. The quantity of this low price material, however, is rapidly becoming a minor factor in Oklahoma and if the strong demand for the other grades continues a general advance in the lower grades is expected.

### Gasolines Stronger

Some improvement also was noted in the refinery gasoline market. The major refiners have not advanced their prices to the trade but a large part of the low priced material has been absorbed and the differential between the high and low prices has narrowed.

The large purchase of U. S. Motor gasoline by the Gulf Refining Co. in North Louisiana, West Texas and North Texas including the Texas Panhandle apparently was responsible for the better feeling in the refinery gasoline market of the entire Mid-Continent area. The Gulf buying is said to have totaled approximately 750 cars about equally divided among the three areas mentioned. The purchases are for delivery over the next 30 days.

A large part of this gasoline will be moved to the bulk stations of the Gulf company in Texas and Louisiana and the remainder to the Gulf Coast for coastwise movement. These purchases absorbed surplus material and at the same time brought into the market some other buyers who had been postponing their purchases in anticipation of lower prices.

The Gulf purchase is interpreted by some as indicating that the refinery gasoline market will not go lower for the next few months at least. If this view becomes general among the buyers it is certain that additional purchases will materialize for storage purposes. Many of the larger jobbers in the Middle West have not filled their winter storage but will do so as soon as they are convinced that prices are at bottom.

Refiners also view the Gulf purchase as pointing to additional purchases from time to time. Last year purchases by the Gulf and other major refiners in the Coastal areas very materially aided in maintaining the Mid-Continent market. It is apparent that with the additional gasoline production available from West Texas refiners this business will again be welcome during 1929.

### Natural Gasoline

Natural gasoline continued strong through Saturday of last week. Prices at that time reached a high of 8 cents for Grade A, Grade AA 7¾ cents and Grade BB, 6¾ cents. Prices receded from these peaks one-quarter to one-half

(Continued on Page 150)

### REFINED MARKET BAROMETER

Refinery gasoline tank car prices were lowered in both the West Coast and East Coast areas during the week. On the West Coast the lower prices reflect a price war in the retail market which has been under way since the first of the year. Prices are now the lowest since the price war of 1927. Price changes in refinery gasolines at interior points were of minor importance. Fuel oils displayed strength at practically all refining centers except for the coastal areas and along the coast Gulf prices were advanced. Gas oil shared in the improved fuel oil market except for the Gulf Coast where prices were lowered. Kerosene continues strong in the Mid-Continent and Middle West with no changes in other areas. The furnace oil demand exceeds the supply in several areas and prices are higher at refineries. Natural gasoline prices in both California and the Mid-Continent were lowered the first of the week. Lubricating oils and wax were soft in the East with no changes reported in other areas.

**Mid-Continent**—Kerosene generally strong and prices higher in most areas. Heavy buying also gives better tone to refinery gasolines. Natural gasolines after advancing over period of two weeks' duration reacted slightly the first of the week. All grades of furnace oils strong and prices higher. No change in lubricants and wax.

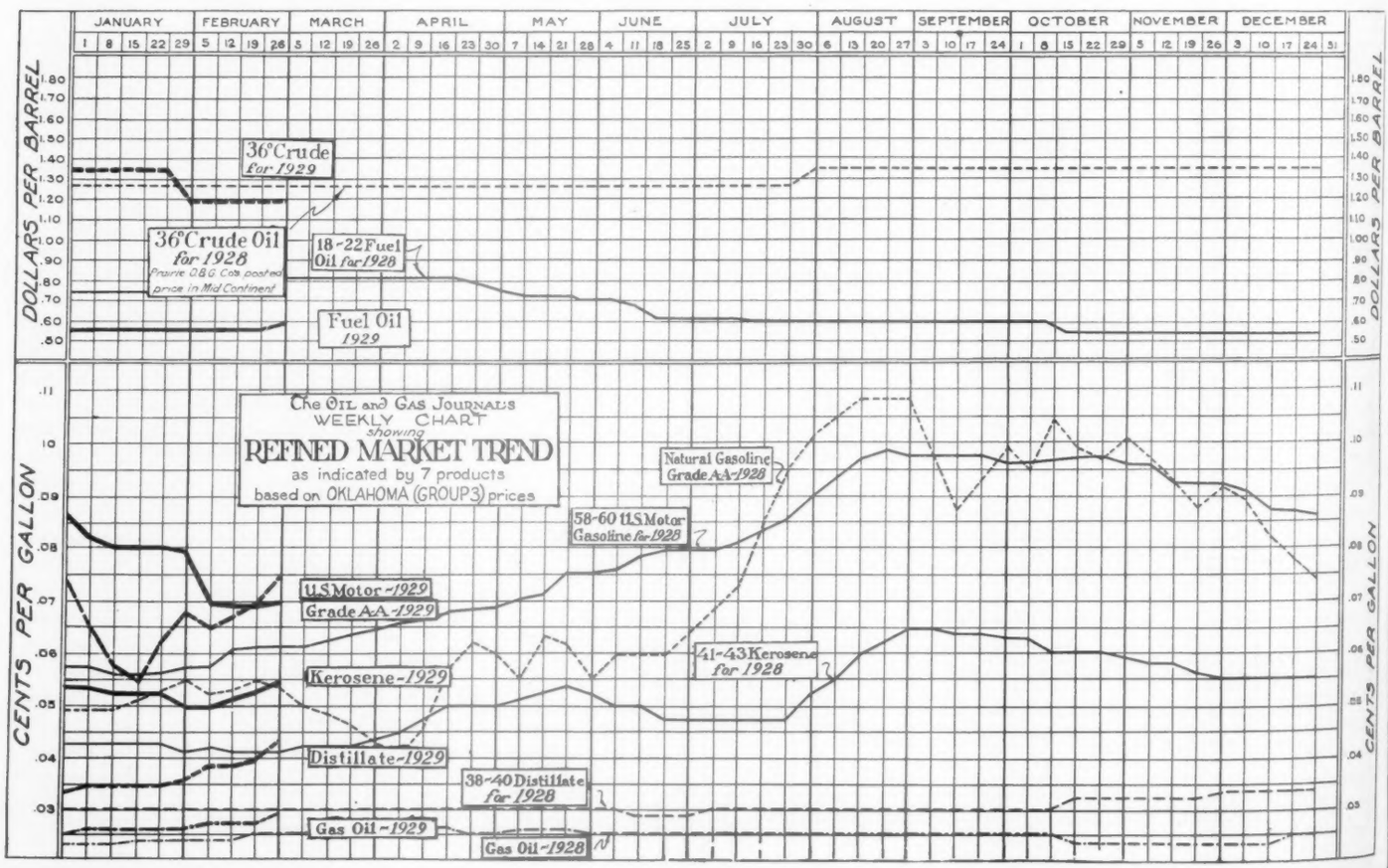
**East Coast**—Refinery tank car market on gasoline reduced one-half cent. Wax and lubricants soft. Fuel oils and gas oils steady. Good movement in kerosene. Other products unchanged.

**California**—Gasoline market unsettled and prices lower both for domestic and export movement. Natural gasolines lower. No change in other products.

**Gulf Coast**—Fuel oil market strong and prices on bunker grades advanced. Gas oil prices lower. Lubricants unchanged.

**Chicago**—Furnace oils active. Low cold test fuel oils and gas oil prices higher. Better demand for gasoline. Kerosene prices advanced.

**Pennsylvania**—Market on most products slow. No important price changes.



# Mission Output Less Than Anticipated

## Low Average Production Per Well and the Dry Holes Completed Have Resulted in Slowing Up of Contemplated Operations

By J. L. Dwyer

With the completion of 65 wells in the Mission Pool of the Greater Seminole region, the production of that sector increased to a new peak of 48,400 bbls. There are only a few of the first crop of wells which have not been drilled into the sand. These wells, which were started November 15, 1928, were expected to bring about 75,000 bbls. of new production into the picture, but the results thus far have been disappointing.

The Mission Pool seems destined to be an air-lift field, and wells which flowed naturally have been the exception rather than the rule. The discovery well, Gypsy Oil Co.'s No. 1 Mission, SW cor. SW Section 5-8-6, had an initial production of 3,200 bbls. daily from the Wilcox sand. The next well to penetrate the sand was the Gypsy Oil Co.'s No. 1 Barkus, SE cor. SW Section 6-8-6, one-half mile west. The Barkus well flowed 4,020 bbls. naturally from the same sand. None of the wells which were started last November has enjoyed an initial output anywhere like the Gypsy's first two wells. The best well to be completed this month had only an initial output of 1,300 bbls. by natural flow, while the best air-lift well was the Independent Oil & Gas Co.'s No. 1 Lawson, in Section 1-8-5, which made an average of 165 bbls. an hour for 15 hours on air.

The average completion in this field has been around 700 bbls. daily initial production, a very disappointing figure. There is one aspect of the Mission Pool which looks encouraging, and that is the wells have been drilled only a few feet into the sand, 5 or 6 feet penetration being the rule in the majority of cases.

There have been a number of dry holes drilled in what was considered the heart of the field. These tend to give Mission a rather erratic appearance, and they have resulted in a slowing up of the second group of wells which were to have been started February 15. It was at first thought that about 75 wells would be started on that date, but the limited average per well and the dry holes have eliminated many of the locations.

There are 16 dry holes drilled in the region shown on the accompanying map, and 12 of these were drilled since the Mission excitement started. The western limits of the pool were defined last fall by two dry holes drilled in Section 12-8-5. The Texas Company drilled the first failure in the SW cor. SW Section 12, and the Prairie Oil & Gas Co. drilled the next one, NE cor. NW Section 12. These two holes, 1¼ miles apart, stopped all development to the west.

There are now 41 active operations in the Mission Field, and this work means an expenditure of approximately $2,870,000 for drilling the wells regardless of much lease equipment and machinery necessitated if they should be found productive. The cost of drilling runs slightly higher than some of the other pools of the Seminole region, as they must be drilled to an average of 4,300 feet.

The field at this time extends slightly less than 2 miles in one direction and 2½ miles in the other. What at first appeared to be the most promising part of the pool is not giving the anticipated results. The region to the east of No. 1 Mission is marked by four dry holes within three-quarters of a mile, while southeast of the discovery well is eliminated by three dry holes.

What now appears to be the best production is being obtained on the west side of the pool from the Independent Oil & Gas Co.'s lease, the Minnehoma Oil Co.'s property, and the 80 acres owned jointly by the Shell Petroleum Corp. and the Papoose Oil Co.

*The present status of Mission Pool, Townships 8-5 and 8-6, Seminole County, Oklahoma.*

# Sky Is Limit in Lea County Campaign

## Never Such Wide Scope in Territory or Such Prices for Wildcat Acreage as in Southeastern New Mexico Operations

By James H. Dameron
*Fort Worth Bureau, The Oil and Gas Journal*

"Watchful waiting continues to feature the development in southeastern Lea County, New Mexico, a county 108 miles long and 30 miles wide, which has no banks, no running streams, no bridges, more cows and less milk and where you can look farther and see less than any county of similar size in New Mexico."

The above is quoted from a wire filed by a representative of a major company sent into Lea County last fall to make a report on the area. That report, six months old, summarizes the Lea County wildcat campaign today as accurately as it did then, with two exceptions. Lovington has a bank and Monument has a bridge.

Never in the history of the industry has a campaign covering such a wide scope of territory been carried on. Never has wildcat acreage brought such prices. The wildcat play made along the Caldwell-Angelina flexure in Louisiana is comparable in a measure but it was not as extensive and costly as the Lea County play.

When the campaign opened acreage was bought on the theory the big lime, productive in West Texas, would extend far north through southeastern New Mexico and would be productive. When it started it was labeled as being out of the realms of the ordinary when entire townships were being bought. Nor did it stop with one or two townships. An area about 18 miles formed the first limits in width and the sky was the limit in length, both literally and figuratively because buyers would look to the horizon and try to buy that far north that day and pay sky high prices.

### Extent of Campaign

At the present there is an area 3 townships wide and 10 townships deep that is leased solidly or an area covering more than 1,000 square miles, in one play. That merely represents the heart of the campaign. On the west side of the "hot" play are thousands of acres more under lease and the county is fairly well blocked on north from the active area well into Roosevelt County.

Some of this acreage established unusual and new highs in purchase price for that type of lease. In the early stages acreage sold around the usual prices but as the sand over the county warmed up so did the price and in several instances acreage changed hands on the basis of $300 per acre. It is reported that no broker handling Lea County acreage lost money during the boom period. There is a story told around Jal that lease owners standing on the derrick floor of the Marland Eaves looked down to the south when the Leck area was opened and added $10 per acre to the sale price of their holdings every time that well shot a cloud of fluid into the air.

As development progressed in the southeastern part of the State the acreage buying campaign swung northeastward to Texas. Only recently a warm acreage buying campaign was completed in parts of Gaines County, through Yoakum and into Cochran, Hockley and Terry Counties.

A better example of the magnitude of the campaign may be obtained by vizualizing a wildcat play in a belt 18 miles wide and clear across three South Plains Texas counties which are 30 miles square. Operators in close touch with the entire history of the campaign variously estimate the total cost of the campaign to range between $15,000,000 and $25,000,000.

Discovery of a major pool in that territory is about the only weakening development that has not crossed the path of the industry in the past 18 months. Lea County changes its complexion with almost the same swiftness that has characterized the buying campaign there and a major pool may be discovered any day.

### Four Completions in Play

So far, the results obtained by wildcat exploration work has not brought about an acute condition in that territory. Only four oil wells have been completed thus far that are being considered in the play. The definition of a major pool for this area is generally considered a pool similar to the Hendricks Pool down south across the line in Winkler County, Texas. However, in the distance between the two farthest separated producing wells in Lea County, there is sufficient room to develop half a dozen pools the size of Hendricks if the big lime proves as productive as is anticipated.

The drilling thus far shows a big lime high running almost due north and south from the county line on the south several miles north in the county. As these high lime wells were drilled the buying progressed farther north. But when the Midwest well, in 9-19s-38e, made a producer the entire Lea County picture underwent a radical change. Incidentally this well was drilled on a magnetometer high and is the first well in the general region that was drilled with success on geology mapped with a magnetometer.

This well caused many to believe the high swung to the northeast and into Texas. Others held the opinion it would be found running to the northwest in the

(Continued on Page 148)

### LEA COUNTY, NEW MEXICO COMPLETIONS

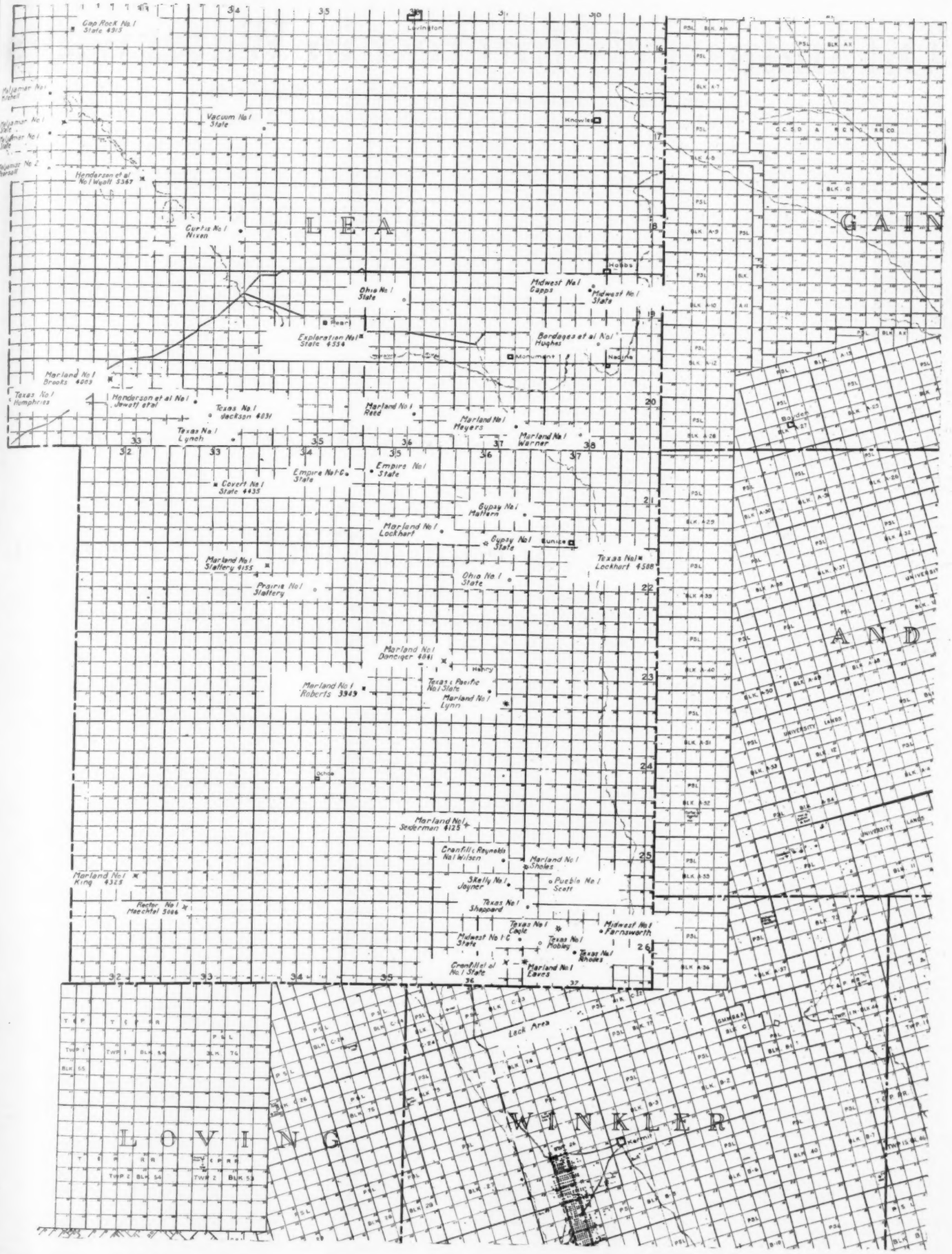
| Company, farm and location— | Elev. | Top Salt | Top Lime | Gas Show | Oil Show | Status and Remarks |
|---|---|---|---|---|---|---|
| Cranfill & Reynolds' No. 1 State, 950 ft. from south line and 330 ft. from east line, Sec. 23-26e-36s... | 2,918 | 1,835 | 3,083 | ..... | ..... | Shut down 3,501 ft.; hole full salt water 3,501 ft. |
| Cap Rock Oil & Gas Co.'s No. 1 State, NW SE SW Sec. 11-16s-32e | 4,319 | .... | .... | ..... .... | ..... | Dry and abandoned 4,915 ft. |
| Covert Oil Co.'s No. 1 State, SW NW NW Sec. 15-21s-33e | 3,837 | .... | 3,860 | ..... | ..... | Dry and abandoned 4,435 ft. |
| Exploration Co.'s No. 1 State, C NE Sec. 25-19s-35e | 3,690 | 2,020 | 3,925 | ..... | ..... | Dry and abandoned 4,554 ft. |
| Inglefield et al's No. 1 State, 250 ft. from south and east lines, Sec. 4-17s-34e | 4,095 | .... | .... | 3,895–3,915 | *4,678–4,745 | 25 bbls.; total depth 5,344 ft. |
| Henderson & Dexter & Blair's No. 1 Wyatt, 330 ft. from south and west lines SW Sec. 34-17s-33e..... | 4,052 | 1,580 | .... | ..... | ..... | Tested at 5,367 ft. |
| Maljamar Oil & Gas Corp.'s No. 1 Balsh-Gov., 330 ft. from NE cor. Sec. 21-17s-32e | 3,988 | 951 | 2,542 | ..... | 4,102–55 | 125 bbls. |
| Maljamar Oil & Gas Corp.'s No. 1 Beardsley, Sec. 15-17s-32e | 4,053 | .... | .... | ..... | ..... | Plugged back to 4,000 ft.; shot with 120 qts. at 3,880-3,910 ft.; made 10 bbls.; total depth 4,335 ft. |
| Maljamar Oil & Gas Corp.'s No. 1 Mitchell, SW cor. Sec. 4-17s-32e | 4,032 | 945 | .... | 3,725 | 3,816 | Total depth 4,233 ft.; 150 bbls. |
| Maljamar Oil & Gas Corp.'s No. 1 State, SE cor. Sec. 16-17s-32e | 4,003 | .... | .... | 3,116 | 3,810 | Total depth 4,114 ft.; 150 bbls. |
| Marland Oil Co.'s No. 1 Brooks, NW SW Sec. 8-20s-32e | 3,535 | 1,090 | 2,865 | ..... | 3,030–90 | Dry and abandoned 4,003 ft. |
| Marland Oil Co.'s No. 1 King, NE NE Sec. 26-25s-32e | 3,407 | 1,062 | .... | ..... | ..... | Dry and abandoned 4,325 ft. |
| Marland & California's No. 1 Danciger, 330 ft. from south and west lines, Sec. 7-23s-36e | 3,425 | 1,725 | 3,565 | ..... | 3,833–37 | Dry and abandoned 4,041 ft. |
| Marland Oil Co.'s No. 1 Roberts, SW cor. Sec. 20-23s-35e | 3,410 | 1,657 | 3,840 | ..... | ..... | Dry 3,949 ft. |
| Marland Oil Co.'s No. 1 Seideman, SW cor. Sec. 4-25s-36e | 3,173 | 1,470 | 3,494 | ..... | ..... | Dry 4,125 ft. |
| Marland Oil Co.'s No. 1 Slattery, 2,310 ft. from north and east lines Sec. 7-22s-34e | 3,519 | 1,615 | 3,650 | ..... | ..... | Dry 4,155 ft. |
| Ohio Oil Co.'s No. 1 Mitchell, NE NW Sec. 18-17s-32e | 3,930 | .... | .... | ..... | ..... | Dry and abandoned 4,385 ft. |
| C. E. Reynolds Drilling Co.'s No. 1 Mitchell, C SE Sec. 29-13s-37e | 3,905 | 2,475 | 4,770 | ..... | ..... | Dry and abandoned 5,235 ft. |
| Rector Oil Co.'s No. 1 Maechtel, SW Sec. 5-26s-36e | 3,294 | 1,150 | .... | ..... | 4,998–5,005 | Dry at 5,006 ft. |
| The Texas Company's No. 1 Jackson, SE cor. Sec. 4-20s-34e | 3,637 | 1,540 | 3,670 | ..... | ..... | Dry at 4,031 ft.; water at total depth. |
| The Texas Company's No. 1 Lockhart, SE SE SW Sec. 6-22s-28e | 3,371 | 4,097 | .... | ..... | ..... | Dry at 4,508 ft.; water at total depth. |
| The Texas Company's No. 1 Rhodes, Sec. 22-26s-37e | 2,993 | 1,140 | 3,010 | †2,985<br>‡3,190 | ..... | Total depth 3,213 ft.; 110 bbls. oil, 17,000,000 ft. gas. |

*400-quart shot. †First gas. ‡Second gas.

### LEA COUNTY, NEW MEXICO, WILDCAT OPERATIONS

| County, Farm and Location.. | Elev. | Top Salt | Top Lime | Gas Show | Oil Show | Status and Remarks |
|---|---|---|---|---|---|---|
| Bordages's No. 1 Hughes, C S half Sec. 27-19s-38e | 3,585 | 1,680 | 3,750 | 3,110 | 3,060 | Cleaning out 4,012 ft.; pipe collapsed; 400 ft. oil at 4,002-07 ft. |
| Cranfill & Reynolds' No. 1 Wilson, 1,650 ft. from north line and 2,301 ft. from east line Sec. 23-25s-36e | .... | .... | .... | ..... | ..... | Drlg. 812 ft. |
| Curtis Drilling Co.'s No. 1 Nixon, 990 ft. from north and east lines Sec. 22-18s-34e | 3,910 | .... | .... | ..... | ..... | Shut down 1,200 ft. |
| Empire Gas & Fuel Co.'s No. 1 State, NE NW Sec. 8-21s-35e | 3,634 | 1,765 | 3,780 | ..... | 3,817 | Total depth, 3,835 ft; 150 bbls. oil, 60 bbls water. |
| Empire G. & F. Co.'s No. 1-C State, 2,310 ft. from north line and 330 ft. from west line, Sec. 12-21s-34e | 3,714 | 1,840 | 3,575 | ..... | ..... | Drlg. 4,033 ft.; water at 3,873-91 ft. |
| Gypsy Oil Co.'s No. 1 State, 330 ft. from south and west line SW Sec. 34-21s-36e | 3,562 | 1,650 | 3,062 | *3,620–3,735 | 3,790–3,805 | Plugged back to 3,895 ft.; completed as gas well; total depth 3,951 ft. |
| Gypsy Oil Co.'s No. 1 Mattern, SW cor. SE Sec. 24-21s-36e | .... | .... | .... | ..... | ..... | Drlg. 775 ft. |
| Henderson & Dexters' No. 1 Jewett & McDonalds, SE cor. Sec. 18-20s-34e | 3,631 | .... | .... | ..... | ..... | Drlg. 1,510 ft. |
| Maljamar Oil & Gas Corp.'s No. 1 State, 330 ft. from NE cor. Sec. 15-17s-32e | .... | .... | .... | ..... | ..... | |
| Maljamar Oil & Gas Corp.'s No. 1 Pearsall, 660 ft. from north and east lines Sec. 33-17s-32e | 3,944 | 1,692 | .... | ..... | 3,345 | 3,000 ft. water at 4,338 ft.; S. D. |
| Marland Oil Co.'s No. 1 Eaves, 330 ft. from south and west line SE Sec. 19-26s-37e | 2,941 | 1,173 | 2,690 | ..... | 2,965–3,000 | Fishing 3,000 ft.; 90,000,000 ft. gas |
| Marland Oil Co.'s No. 1 Lynn, NW SE Sec. 26-23s-36e | 3,344 | 1,450 | 2,800 | 2,820 | 3,224–83 | Total depth 3,930 ft.; hole full of sulphur water; plugged back to 3,780 ft. for 50,000,000 ft. gas. |
| Marland Oil Co.'s No. 1 Sholes, 330 ft. from north and west lines SW Sec. 19-25s-37e | 3,065 | 1,060 | 2,550 | 2,635–3,035 | ..... | Fishing 3,035 ft.; 60,000,000 ft. gas |
| Marland Oil Co.'s No. 1 Reed, NE SW 2,310 ft. from south and east lines, Sec. 22-20s-36e | 3,598 | 1,645 | .... | ..... | 3,740 | Drlg. 3,765 ft. |
| Marland Oil Co.'s No. 1 Meyer, 2,310 ft. from north line and 330 ft. from west line, Sec. 26-20s-37e | 3,508 | 1,335 | 2,795 | 3,505 | 3,840–45 | Hole full sulphur water 3,892-98 ft.; drlg. 3,912 ft. |
| Marland Oil Co.'s No. 1 Warren, 330 ft. from south line and 2,310 ft. from west line Sec. 28-20s-38e | 3,528 | 1,500 | .. | 2,992 | ..... | Drlg. 3,804 ft. |
| Marland Oil Co.'s No. 1 Lockhart, 330 ft. from north line and 2,310 ft. from west line Sec. 31-21s-36e | 3,628 | 1,785 | 3,310 | ..... .... | 3,805 | Total depth 3,945 ft.; 90 bbls at 3,805-3,942 ft.; water at 3,943 ft. |
| Midwest Oil Co.'s No. 1 Capps, SW cor. Sec. 3-19s-38e | .... | .... | .... | ..... | ..... | Rig. |
| Midwest Oil Co.'s No. 1 Farnsworth, 990 ft. from south line and 330 ft. from west line Sec. 12-26s-37e.. | 3,012 | 1,130 | 2,795 | ..... | 3,458–65 | Drlg. by tools 3,880 ft. |
| Midwest Oil Co.'s No. 1-C State 990 ft. south and 330 ft. west NE Sec. 13-26s-36e | 2,959 | 1,135 | 2,710 | ..... | ..... | Total depth 2,714 ft. |
| Midwest Oil Co.'s No. 1 State, 200 ft. from north and east line, Sec. 9-19s-38e | 3,638 | 1,625 | 3,883 | ..... | 4,050 | Fishing 4,220 ft.; flowed 1,200 bbls.; water at 4,245 ft. plugged back to 4,220 ft. |
| A. D. Morton's No. 1 State, 320 ft. from north and west lines, Sec.32-11s-38e | 3,760 | .. | .... | ..... | .... ..... | Drlg. 1,521 ft. |
| Ohio Oil Co.'s No. 1 State, 330 ft. from north and east lines, Sec. 14-22s-36e | .... | .... | .... | ..... | ..... | Location. |
| Ohio Oil Co.'s No. 1 State, 2,310 ft. east and 990 ft. north of SE Sec. 9-19s-36e | .. | .... | .... | ..... | ..... | Location. |
| Prairie Oil & Gas Co.'s No. 1 Slattery, 330 ft. from north and east lines, Sec. 22-22s-34e | .. | .... | .. | ..... | ..... | Location. |
| Pueblo Oil Co.'s No. 1 Scott, 1,890 ft. from east line and 660 ft. from south line, Sec. 29-25s-37e | .... | .... | .... | ..... | ..... | Rig. |
| Skelly Oil Co.'s No. 1 Joyner, 2,310 ft. from south line and 330 ft. from east line, Sec. 26-25s-36e | 3,029 | 1,140 | 2,962 | ..... | 3,248–59 | Total depth 3,331 ft.; estimated 1,200 bbls.; pinched to 2 bbls hourly. |
| The Texas-Amerada & Columbia's No. 1 Cagle, 330 ft. from south and west lines NE Sec. 9-26s-37e | 2,966 | 1,110 | 2,680 | 2,859 | ..... | Shut down 3,474 ft.; 80,000,000 ft. gas. |
| The Texas Company's No. 1 Moberly, 990 ft. from north line and 330 ft. from west line, Sec. 11-26s-37e | 2,967 | .... | 2,873 | 3,380 | ..... | Fishing 3,542 ft. |
| The Texas Co.'s No. 1 Sheppard, 330 ft. from south and east lines, NE Sec. 6-26s-37e | 2,970 | 1,130 | 2,647 | 2,690 | 2,730 | Fishing 3,223 ft.; 160 bbls. oil increasing. |
| The Texas Company's No. 1 Humphreys, 330 ft. from south and west lines, Sec. 18-20s-32e | .... | .... | .... | ..... | ..... | Location. |
| The Texas Company's No. 1 Lynch, 2,310 ft. from south and west lines, Sec. 34-20s-34e | .... | 1,665 | .... | ..... | ..... | Drlg. 1,965 ft. |
| The Texas Pacific Coal & Oil Co.'s No. 1 State, SE SE SW Sec. 22-23s-36e | 3,407 | 1,570 | 2,945 | ..... | 2,945–51 | Running 8-in casing. |
| Vacuum Oil Co.'s No. 1 State, SW cor. NW Sec. 13-27s-34e | .. | .... | .. | ..... | ..... | Drlg. 320 ft. |

*16,000,000 ft. gas.




*The Oil and Gas Journal's map of Lea County, New Mexico, operations showing the vastness of the wildcat campaign in that section. Base map courtesy Logan Map Co. New Mexico and West Texas combination map.*

# Oil Industry's Interest in Waterways

## Completion of National System Urged as Benefit to Farmers, Would Also Aid Oil Industry as Largest Shipper

By Charles E. Kern
*Washington Bureau, The Oil and Gas Journal*

WASHINGTON, D. C., Feb. 23.—There will be much interest in common between the farmers and the oil interests when the new McNary bill for farm relief is considered. Two essential features of farm relief it is now fully understood President-elect Herbert Hoover approves relate to the "early opening of additional waterways with a view of lowering transportation costs from the productive areas to markets and export bases," and for the further development of the hard highway system of the country.

At this time, as has been stated by army engineers who are thoroughly familiar with transportation on inland waterways, oil provides more freight than any other branch of business. The oil industry is today using the highways for distribution of gasoline and lubricating oil in a constantly increasing manner. Waterway and highway transportation are going hand in hand. Waterways reaching improved roads reduce costs of delivering products of petroleum in remote districts formerly reached only by the more costly railway transportation.

A study of the maps prepared for waterway improvements shows that what is good for the farmer will be good for the oil industry. The same statement applies to highway improvement so that these two industries will go hand in hand in promoting the public welfare by aiding the farmer not only in getting his products to market on more advantageous transportation costs but at the same time give him the additional advantage of having his gasoline and lubricating oils brought to his door with lessened transportation charges.

Engineers and transportation experts studying the joint problems presented by the inland waterways and by public road improvements have been impressed by the unity of these two systems for moving products of the farmer and of the oil industry and they are looking forward to a vastly greater territory in which waterways and better public roads will add immeasurably to the comfort of the farmer in sections that have formerly been deficient in transportation facilities.

### Should Hasten Program

One of the great objects to be attained, stressed by engineers, is the necessity of completing as soon as possible the national waterway and highway systems so they may function with 100 per cent efficiency. This is one of the policies that has been close to the heart of Herbert Hoover. He has not been satisfied with any plan that involves the dragging along of annual appropriations, perhaps satisfying congressmen in whose districts they are made, without a definite purpose of linking up the entire system as a unit. That congressional policy, which has been known as the "pork barrel" system, gained its bad reputation because congressmen were fairly satisfied if money could be obtained in their districts to convince constituents they were active in their efforts to serve them at Washington. Frequently the utility of a completed system has been overlooked by Congress. Today there is a strong feeling that it is not sufficient to tinker with a great national improvement of this kind but there must be strides to insure the functioning of the whole system and in many quarters the words of the President-elect are being quoted to indicate that, so far as his influence can be exercised, it will be to this end.

The Ohio River improvement will be completed during this year. This great work, on which the Government is spending $108,000,000, is now nearing the time when it will provide efficient service although it is likely that in filling in minor improvements $3,000,000 or $4,000,000 additional may be required. Before the close of the year the entire Ohio River will be completely canalized from Pittsburgh to Cairo, probably in September, when a fleet of steamboats will make the entire trip, stopping at intermediate points for appropriate celebrations by the people who will be benefited. The trip will cover 968 miles, the longest canalization provided for any waterway in history. Probably by 1930, or certainly not later than 1931, the Missouri River as far as Kansas City will have completed a 6-foot channel, it being approximately 400 miles long. It is assumed that many harbor improvements will be included in these projects to make them feasible for transportation purposes.

### Canal's Effect Factor

It is conceded that the Middle West did not have equal opportunity to profit by the Government's building of the Panama Canal. Economists have expressed the view that this great work of providing for inland waterways and for highway construction is one to which the Middle West is entitled in a spirit of fairness.

The building of the Panama Canal, it is contended, put the Middle West at a serious disadvantage. Measured by transportation costs the Atlantic and Pacific Coasts have been brought very much nearer together so that merchants and manufacturers located on or near the coasts where water transportation through the Panama Canal is available have a tremendous advantage over those in the Middle West where they must depend upon rail transportation. Some factories have been moved bodily from the Middle West to the coast and others have had to establish branches in order not to be put out of the competition entirely. This subject has received the attention of Mr. Hoover in his speeches and the one thing it is contended that will restore the former condition of equality to the Middle West is to improve the inland waterways and connect them into a united system.

At this time the amount appropriated for river and harbor work annually is $50,000,000, with $30,000,000 in addition for flood control on the Mississippi River. Improvement of the Sacramento will involve some additional expense. Some members of Congress wish to see this $50,000,000 estimate doubled, but officers of the National Rivers and Harbors Congress have not taken that extreme view, because the doubling of the equipment and the personnel necessary for the work in so short a time is looked upon as impractical. A more conservative view is for an additional $10,000,000 annually so that the peak of engineering activity could be more economically reached.

### Appropriate $100,000,000 a Year

An average of $6,500,000 per year has been spent on the Ohio River for the past 10 years and after June 30, 1930, that project being completed this appropriation will no longer be needed and a similar amount could be made available for

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# Ask Reduction of Winkler Production

## Umpire and Chairman of Advisory Board Urge 50,000-Bbl. Decrease to Save Pool From Water Encroachment

By James H. Dameron

FORT WORTH, Tex., Feb. 25.—Alarming encroachment of water in several Hendricks Pool wells and the lowering of back pressure in a number of wells has prompted Ed A. Landreth, chairman of the Winkler County Proration Committee, to urge Winkler County producers to slash 50,000 bbls. daily from the allowable production of the county to remedy the situation. At the present time the allowed quota of the county under a railroad commission order is 175,000 bbls. daily and adoption of his suggestion would bring production down to 125,000 bbls. daily.

Mr. Landreth is making an effort for an early reduction in the quota and suggested March 1 as the date instead of waiting until March 15. Usually when the committee recommended changes either way in the allowable quota the change was not made effective for several weeks.

For several weeks a number of operators have deemed it advisable to reduce the production of Winkler County and this sentiment was crystallized into definite action upon receipt of a letter written by Reed Alsobrook, umpire of Hendricks, in which he graphically described the results of unrestrained production of wells in that pool.

A meeting of the Winkler County Advisory Committee was called for 10 o'clock Wednesday morning by Chairman Landreth for the purpose of discussing the proposed reduction in Winkler County runs. Chairman Landreth in a letter mailed to all of the producers explained briefly the water troubles in the Hendricks Pool and requested their sentiment towards a 50,000-bbl. reduction in runs. Those favoring the cut in runs hope the response will permit the advisory committee to recommend to the railroad commission the reduction in runs. Otherwise a special hearing will likely be held before the state body at which time the entire situation will be threshed out.

By being in a position to recommend a reduction Wednesday some of the committee members hope to have the proposal put into effect March 1.

Mr. Landreth in his letter to the producers expressed the hope for voluntary agreement among producers for the 50,000-bbl. cut thereby eliminating the necessity for an appeal to the railroad commission. It is generally agreed that under unrestricted producing conditions the Hendricks Pool will still produce a big volume of oil but most of the operators hold the opinion that maintenance of a good back pressure on the wells is necessary to obtain the greatest recovery.

Many also hold the view that unless some assurance is made that the field is to be produced under strict proration rules that producing there will end in every operator going to the extreme and being forced into unrestrained production of leases. Such a condition, while remote at this juncture, would not only seriously reduce the ultimate recovery of the pool but many take the position it would be reflected in the West Texas market to the loss of many operators.

### Umpire's Letter

Following is a copy of Mr. Alsobrook's letter:

"The Bankers Producing Corp.'s well No. 1, located in Unit 12, Section 30, Block B-5, Hendricks Pool, which well when last given official proration test (for 24-hour potential) made 4,654 bbls. of as clear, pretty, pipe line oil as is produced in this field, went to 65 per cent cut oil in less than 48 hours time, after being produced 23 days, opened to capacity under the privilege gained through temporary injunction against the enforcement of the proration plan.

"The details of how this havoc was accomplished are as follows: Starting with a well head pressure January 15 (that required to stay within proration) of 380 pounds on fourteen sixty-fourths inch choke, the well was opened to (varied daily) from fifty sixty-fourths to 1½ inches and with a gradual pressure decline to 85 pounds. The gross production for the 23 days was 37,752 bbls., or an average of 1,641 bbls. per day. The period of time the well was overproduced was from January 15 to February 20, except 12 days during the latter part of January and first part of February, when well was shut in due to lack of tank cars to transport oil to Fort Worth.

"This letter is written with a threefold purpose, as follows:

"First, to give you the advantage of this information, which shows conclusively how suicidal it is to open the wells in this field and incur a treating expense that is otherwise staved off by retention of pressure of wells.

"Second, to show you, as in this case, that you can count on as the true potential of this field. This well which gauged 4,654 bbls. actually made (under pressure less than 85 pounds) an average of 1,641 bbls. per day or 35 per cent of the tested potential.

"Third, and the most important of all, these findings together with all other observations, suggest the immediate pinching of the field to not exceed 125,000 bbls. per day daily outlet, if we would save it from the fast encroaching water.

"This department considers that the imminent danger of ruination of the field raises an emergency that must be dealt with at once. Please use your influence with the management of your company to bring about a further pinching in of this field."

### Chairman Landreth's Appeal

"The increasing water encroachment is endangering the life of the Hendricks Field, and prompts me, as chairman of the Winkler County Advisory Committee, to urge the operators to cut the present daily production of 175,000 bbls. by 50,000 bbls., limiting the field to a daily output of 125,000 bbls.; this reduction in the allowable production to become effective March 1.

"We all know that water in the Hendricks Field is rapidly increasing and that the life of the field depends solely upon the curbing of this water encroachment. This has been accomplished to a great extent by holding back pressure on

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# Little Buffalo Basin May Get Play

## Structures in Park and Hot Springs Counties, Wyoming, Attract Attention as Deep Test Is Being Drilled in Search of Oil

By Tolbert R. Ingram

The little Buffalo Basin structures in Park and Hot Springs Counties in the Big Horn Basin, north central Wyoming, which have been producing gas from the Frontier formation at comparatively shallow depths since 1914, and operated on a unit basis from that horizon, give promise of attracting wide attention this spring on account of a deep test for oil being drilled by the Grebo Royalties, Inc. The development involves some unique features and may result in far-reaching consequences should the present status of the gas field be changed.

The Ohio Oil Co. and the Midwest Refining Co. are the principal operators in the field and the United States Government and the State of Wyoming own most of the land. Ten gas wells have been drilled on the structures, none of which went more than a short distance below the Frontier. The structures, which straddle the boundary between Park and Hot Springs Counties, are upon the general line of folding extending from the Elk Basin Field in a southeasterly direction. Approximately 20 miles to the north and west is the Oregon Basin Field which is producing black oil from formations of Carboniferous age and gas from younger formations, and 12 miles to the southeast is the Grass Creek Field which is productive of both light and black oil.

### Unexplored Horizons

Dr. F. F. Hintze, in a report prepared in 1928, says that "a significant statement of fact in connection with the depth to which prospecting has been done in wells located properly on structure is that only the Frontier sands have been tested so far. The Dakota and deeper horizons have not been penetrated at locations which have a good chance to be productive of oil or gas. Therefore, the Little Buffalo Basin structures have many unexplored prospective producing horizons for future testing." He names as the principal unexplored prospective oil and gas horizons present in the Little Buffalo Basin structures the Dakota, or Greybull sand, the Morrison sands, the Sundance sand, sand near the middle of the Chugwater, the Embar limestone and possible sands, the Tensleep and Amsden and the Madison limestone. Of these the Dakota, Morrison and Sundance horizons may be considered light oil prospects, and the others are heavy or black oil prospects.

The status of Little Buffalo Basin has remained practically unchanged since 1914 when the Ohio Oil Co. discovered gas in the Frontier in a well drilled in the SW cor. Section 36-38-100 and another in the SE cor. NW Section 2-47-100 both in Park County. Additional wells were drilled to that horizon and the gas is being marketed at Greybull, Grass Creek and several towns for commercial use through the Big Horn Gas Co.'s pipe line constructed at a cost of more than $1,400,000. The quantity of gas being produced is around 3,000,000 feet a day, or only a small part of the open flow capacity of the wells.

Through the co-operation of the United States Government, the State of Wyoming and the lease owners, the field was one of the first in Wyoming to be operated on a unit basis and that method of operation has continued down to the present time undisturbed. Last year the Grebo Royalties, Inc., obtained a state lease for oil only on a 200-acre tract entirely surrounded by the leases of the Ohio Oil Co. and the Midwest Refining Co., and another on a 40-acre tract, and in September, 1928, started a deep test. It is understood that the oil rights only were granted in order not to disturb the unit operation of the field until the company had demonstrated its good intentions, and on January 18, 1929, the state granted the company the gas rights on its tracts. The land upon which the leases were granted was what is known as "lieu" land and title in the state was confirmed by the Federal government only three years after long-pending litigation was ended. The opening of this tract for drilling paved the way for the testing of the lower horizons on two structures.

### Twin Domes

The structures consist of twin domes, enechelon, the highest portions of which lie within a single continuous rim-rock which surrounds a pronounced basin. They are typical basin type structures, and the escarpment, which rises approximately 500 feet above the floor of the basin can be seen entirely circling the two domes. This rim-rock, as described by Doctor Hintze, is composed of massive and heavy bedded sandstone layers commonly referred to as the Mesaverde formation. The surface outcrops within the basin are all of Cretaceous age, with the exception of superficial deposits of soil and gravel of late Tertiary and recent origin. In reference to the geology, Doctor Hintze says:

"Most of the basin floor is occupied by the trucated layers of the Pierre shale. A small area in the south half of Section 1 and the north half of Section 12 exposes the uppermost portion of the Niobrara formation, which underlies the Pierre shales. These two formations are usually grouped in one and called the Cody shale. They are lithologically similar, and consist mainly of blue, gray and brown layers of shale, poorly stratified, except in thin layers of partially consolidated material. Occasional concretionary zones and thin calcareous sandstones, with an occasional limestone layer differentiate the great mass of these shales and make it possible to trace structure lines. The total thickness of these beds ranges from 2,500 to 2,700 feet, but erosion has removed the upper two-thirds of this amount from the central portion of the basin, and the full thickness remains only at the margins next to the formation boundary line. Drilling operations, therefore, involve only the lower one-third to one-half of the Cody shale."

The formations which lie beneath the surface, and which are of importance in connection with drilling wells and prospecting for oil and gas, in the order of their occurrence from younger to older, are as follows:

**TABLE OF FORMATIONS**

(Taken from Professional Paper 145, United States Geological Survey)

Formation, thickness and characteristics follow:

**Cretaceous**

Cody shale, 1,900-3,400 feet. Gray, green and black shales, with calcareous concretions near the base. No persistent sharply marked beds.

Frontier, 494-648 feet. Seven or more beds of gray and buff sandstones with gray and brown shale and bentonite.

Mowry, 160-375 feet. Hard gray shales, containing fish scales.

Thermopolis, 400-800 feet. Gray to black shale, with one persistent sandstone, the Muddy sand.

Cloverly (Dakota), 110-300 feet. Two beds of massive buff sandstone separated by gray or variegated shale. Upper sand is called the Greybull sand.

**Comanchean**

Morrison, 150-580 feet. Purplish and pale

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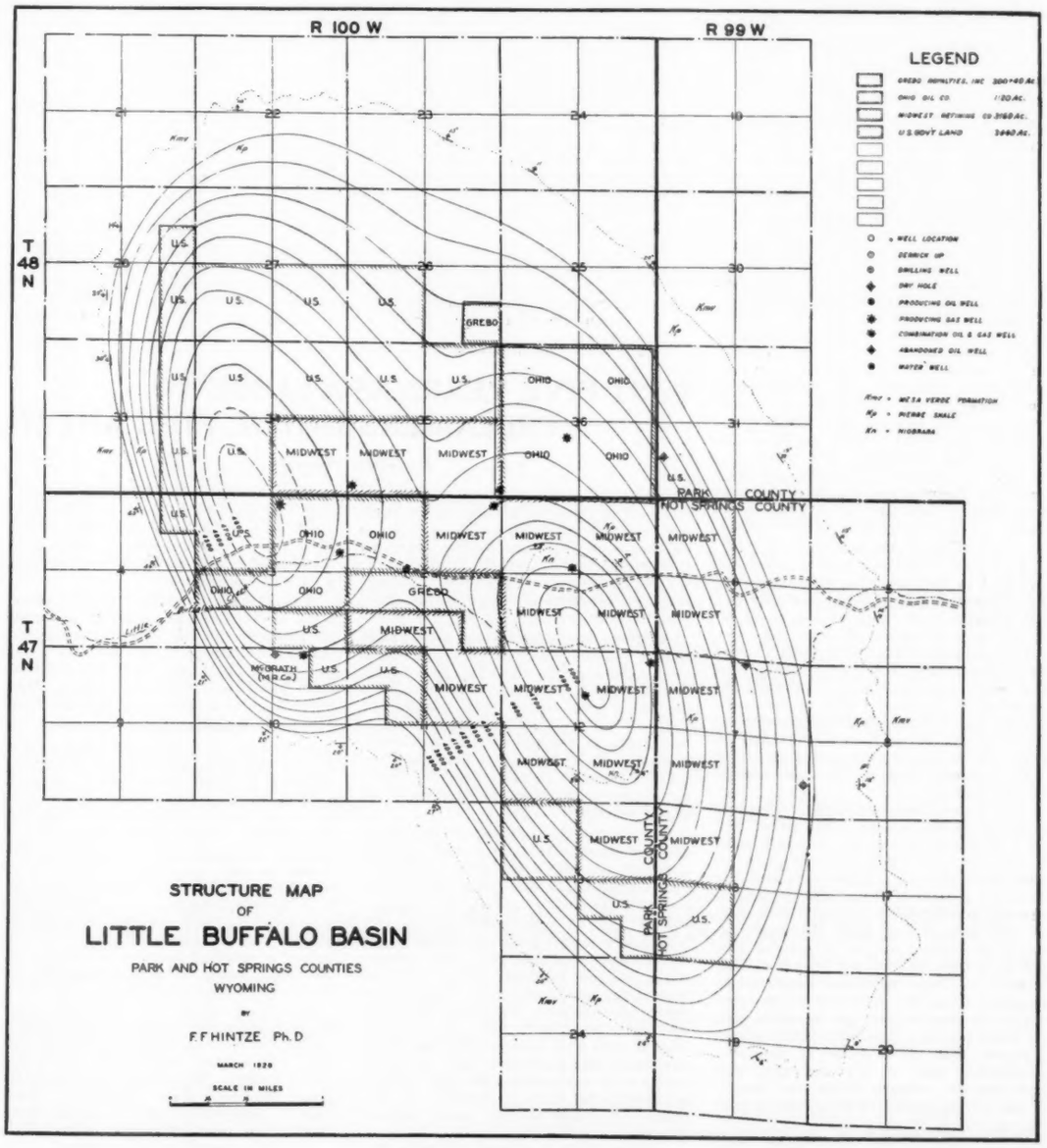


# Repressuring in Gasoline Production

## Can Be of Aid to the Natural Gasoline Manufacturer as Well as to the Producer of Crude. Relative Recoveries

By E. F. Guidinger*
Phillips Petroleum Co.

During the past few years two notable methods of increasing the temporary, and possibly the ultimate, recovery of oil-producing properties have come into general use. Gas lift has been applied to wells in flush fields with spectacular increases in daily yields, and probable favorable results in ultimate production. Gas has been introduced into reservoir sands, either partly or almost wholly depleted, with equally favorable returns. It is the latter subject and its relation to natural gasoline production this paper attempts to discuss.

The first repressuring operations were started in the Eastern fields with generally favorable results. Owing to the age of the properties, the consequent scarcity of available lease gas, and the prohibitive cost of natural gas, air was generally used as the repressuring medium. Introduction was made at such pressures as was necessary to get what was considered a reasonable quantity into the sand. Reservoirs vary widely in such characteristics as porosity, permeability, and saturation; hence, widely varying input pressures were used. Channeling, or by-passing often occurred, which resulted in the production of excessive quantities of air-gas mixtures at individual producing wells. The cause of this was probably the lack of knowledge of what was the reasonable amount of air to put into a sand of certain characteristics. The remedy was to reduce the quantity introduced, resulting in a lower applied pressure, and back pressure the offending wells; but quite often the well, or wells, showing by-passing had to be closed in.

After the industry generally had observed the favorable results obtained by repressuring, the scope of application was broadened. The method has been applied in different producing districts, but generally where sands have become depleted to the point that oil could no longer be profitably produced, and abandonment was seriously considered. Results have been different, but generally quite favorable. Where proper control has been held on the input quantities, and where the production of producing wells has been carefully observed and regulated, returns have been satisfactory. In a great many cases, exceptional results have occurred.

### Use of Air and Gas

The use of air was only a step preparatory to the use of gas. Research work by different agencies demonstrated that considerably more natural gas could be dissolved in a barrel of crude oil at a given pressure than of air, with a corresponding better effect on viscosity and the resulting movement of oil through the sands. The presence of free oxygen with the air quite often led to undesirable effects on the oil, and to an accelerated corrosive condition on equipment. This was especially true in the presence of certain waters.

The result has been that, wherever possible, natural gas has come to be used as a repressuring medium. Where a lease is yet high on its decline curve, with an abundance of gas available, or where the property is near a cheap outside source, there is no difficulty involved. However, in the past it has been customary to think of repressuring as a sort of last aid to a lease in the last stages of life, when it no longer produces enough oil to continue economic operation. Quite generally the surplus lease gas has been sold for some time to a natural gasoline manufacturer, and as a result of declining production, both of oil and gas, this manufacturer usually finds the supply of gas barely sufficient for ordinary fuel operations, to say nothing of supplying repressuring requirements.

Yet, this is just the point where repressuring can be of aid to the natural gasoline manufacturer, as well as the crude oil producer. The successful application of the method touches very closely the continued profitable operation of the natural gasoline plant. The oil producer on the average small property finds himself confronted with a daily rate of production at the apparent economic limit, but with large reserves of oil remaining in the sand. The natural gasoline manufacturer serving this property is in the same condition. Any method by which crude oil production is maintained or increased, should result in equally maintained or changed conditions for the gasoline manufacturer. There is not available enough data to make a positive statement, but it is safe to say that, as a general rule the number of gallons of gasoline produced per barrel of oil should be about the same under the new conditions. Improper control, or certain unusual circumstances surrounding the project, might alter this ratio some, but should not change the general average. Should the oil producer by repressuring be able to effect an apparent increase in ultimate production of, say 40 per cent, then the gasoline manufacturer handling the gas from the property should reasonably expect the same result. It is evident that this changed condition comes at a time when the operation of the plant is approaching a critical condition, and may be the means of extending the time of operation by a considerable number of years.

### Gasoline Manufacturer's Interest

Where at all possible, the gasoline manufacturer should make an active effort to co-operate with the oil producer. The plant generally has surplus compressing capacity. Cylinders may not be of the proper design for suitable pressures, but these are in most cases quickly and economically changed. The unit operation of the compression system leads for economy. The average small lease owner can, as a rule, better afford to pay a small charge for compression service than to install individual equipment on the lease. By a proper system of volume control he can take what he wishes, restricting both volume input and applied pressure to the proper value. In view of the fact that almost invariably best results are had where both of the above factors are held to a minimum, the grouping of this service is much to be desired.

Another factor which makes unit operation desirable is the advantage of unit application of repressuring to the pool as a whole. If an individual producer should decide to repressure, he could expect an average effect from repressuring, this being that certain parts of the property would receive satisfactory benefits while other parts would possibly receive little or none at all. On the other hand, some of the beneficial effects of repressuring on his property might show up on an adjoining property. This is often the case and could easily be expected in average conditions. However, if the producers agreed on a unit operation, desirable key wells could be spaced over the pool as a whole, and by controlling input volumes and pressures on each property, much better results might be had. It seems to me that this is one of the real reasons for advocating unit operation wherever it is at all possible. A gasoline manufacturer can well afford to make an unusual effort to bring all conflicting interests together, and to secure a suitable supply of gas for these operations. Quite naturally this means an added cost which should be passed on to the individual producer, which he may well afford to be willing to assume. However, this cost should be held to a minimum, and the gasoline manufacturer should be willing to undertake this service at a small percentage above actual cost in order to get the project under way and derive benefits further down the line.

### Proper Time to Begin

It is just as well to carry this co-operation a step further, or as might be said, a step or two backward. Repressuring, as a rule, is started only when the gas in the reservoir is practically exhausted. The proper time to begin this operation is much earlier in the life of the property; in fact, where reservoir conditions are at all favorable, the operation should be started when rock pressures have declined to a point where commercial two-stage compression will result in reasonable quantities of gas entering the sand. Such a plan would require the taking off production on the part of the oil producer of a well which would probably be capable of producing a considerable quantity of oil each day, but the results to be gained would more than compensate for this loss, in the increased returns. Here, again, is a place where the natural gasoline manufacturer can serve the interest of the oil producer, and of himself, by advocating the plan of early repressuring and aiding, wherever possible, in the operation.

The question uppermost in the minds of most every gasoline manufacturer who has given this subject any thought and study is the relative advantage of repressuring with wet gas as against that of dry gas. Little data is at hand to support a contention of the advantage in favor of either. It might seem, at first hand, that the raw gas coming from producing wells would be best as against that of dry gas. Wherever wet gas has been used as a repressuring medium it has usually taken place where a supply of dry gas was not available and the supply of wet gas was more or less limited. This automatically leads to a limited input, which we have all come to believe leads to a stabilized condition and best results. More time and experimental data is necessary before a positive statement can be made. It is believed that careful control of input volume and applied pressure, keeping both of these factors at the proper figure, will overcome to a large extent any disadvantage of the dry gas and may show that it is fully the equal of wet gas. If it is desirable to have some gasoline content in the repressuring medium, the natural gasoline manufacturer should be able to co-operate with the oil producer by cutting as much of the undesirable part of the gasoline as possible at certain seasons of the year into the repressuring gas. This means that during the summer months the gas would be very low in content and specific gravity, but during winter months when certain undesirable fractions are available, the repressuring gas can be much increased in specific gravity and in gasoline content.

### Return to Natural Gasoline

In thinking of the relation of repressuring to natural gasoline manufacture, it seems that the question has two different aspects: one is benefits to be derived, and the other the opportunity for co-operation between the two parties concerned. The one is a net result of the other. It may be that this brief discussion has emphasized a little too much the desirability of co-operation on the part of natural gasoline manufacturers with the

(Continued on Page 150)

*Plant Operators meeting, Natural Gasoline Association of America, Ranger, Tex., February 26.

# PAST FIVE YEARS AS A GUIDE TO PRODUCERS IN THE FIVE AHEAD

By James McIntyre

In stressing the necessity for a curtailment of crude oil production, a leading executive, speaking at the meeting of the board of directors of the American Petroleum Institute at St. Louis recently, made the point that the industry would be overburdened with oil not alone for one year, but perhaps for five years.

At first, five years seemed a long time to look ahead. What would be the status of present-day big fields in five years? Would they not decline to a production far below the danger line? Could the industry be expected to discover enough new fields to replace the loss in the declining fields? What has been the history of the past in this respect? What, for example, has been the history of the past five years?

It was for the purpose of answering the last question that the writer has gone over the records in the files of The Oil and Gas Journal and from them made up a few production tables that are surprising in what they disclose.

In one table 93 pools are shown which on January 1 of this year were producing a total of 1,148,097 bbls., or 44 per cent of the total production of the United States on that day. Five years ago these 93 pools and fields had no existence. Was it with this in mind that the executive based his prediction that we would continue to overproduce for five years if action was not taken to stabilize the production of crude to meet actual requirements?

Another table developed 17 fields that were producing more on January 1, 1929, than they were on January 1, 1924. Five years ago these pools produced 67,374 bbls. a day. On January 1, 1929, their total daily production was 217,187 bbls., a gain of 223 per cent.

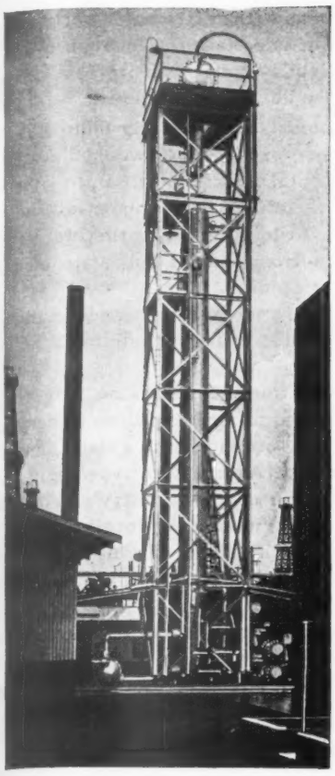
A third compilation developed 36 prominent fields which have shown a decline in production in the past five years, but the decline was only 45 per cent. On January 1, 1924, the 36 fields produced 1,507,340 bbls. and on January 1, 1929, 826,123 bbls., a decline of 681,217 bbls.

### Even Eastern Fields Increased

In looking over the production of the United States as of January 1, 1924, and January 1, 1929, some more surprises were forthcoming. In the ordinary course of things it would be expected that the old eastern fields would show a pronounced decline in five years, but on the contrary, they show an increase. The petroleum engineer has worked effectively in the old fields east of the Mississippi River and has been getting maximum production out of ancient strippers, and has caused a marked increase in output in individual pools with new methods of handling old producing wells.

New York State has increased from 3,258 bbls. a day to 8,200 bbls. a day; Pennsylvania from 17,452 bbls. to 27,650 bbls.; Ohio from 16,580 bbls. to 17,200 bbls.; Indiana from 2,258 bbls. to 3,100 bbls.; Michigan from nothing to 2,400 bbls. a day; Kentucky-Tennessee from 19,174 bbls. to 20,300 bbls. West Vir-

(Continued on Page 148)



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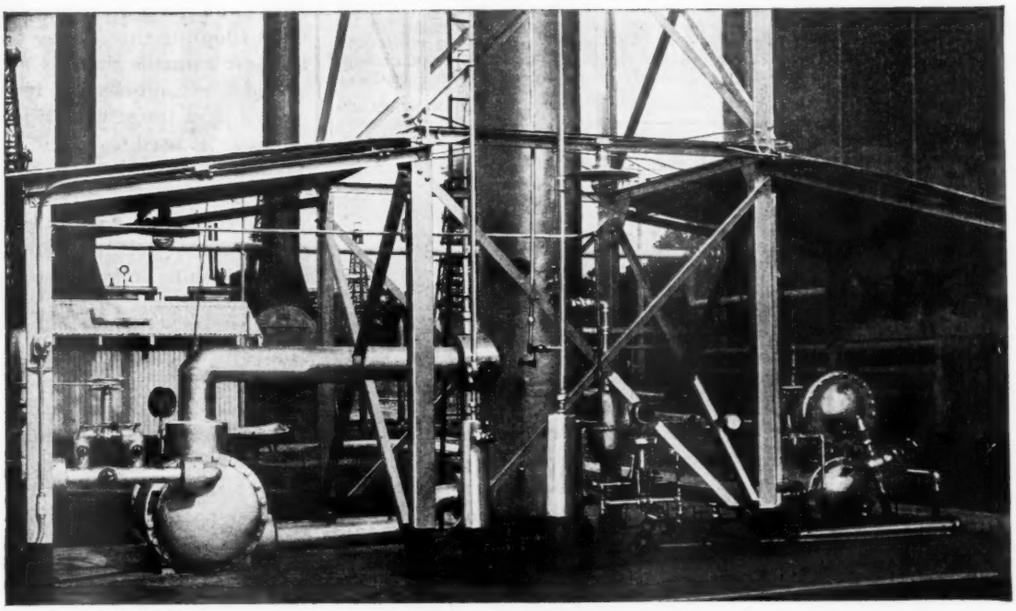

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## A SIMPLE SOLUTION

The oil industry is finding out that you never know until you try.

A few weeks ago the average oil man had about resigned himself to the notion that production was going to keep on climbing.

Now, after a definite effort has been made to cut off excess production, there are many who think the recent peak in production will not likely be exceeded.

It should not be, until consumption catches up with it, if oil men profit from experience.

We have had a lot of talk about conservation and co-operation and curtailment in the past five years but it was necessary to lead up to the culminating point where oil men could get together in taking the simple and direct step of stopping overproduction.

We have known all along that the difference between good times and bad times in the industry was measured by the overproduction.

We have known, if we stopped to think about it, that the remedy was to stop producing more than was needed.

And it was a very simple calculation to find the maximum production required to supply the demand at any time. The domestic consumption of petroleum products and the quantity of crude required to produce those products has been estimated a year in advance with remarkable accuracy.

All that was necessary, at any time, if there could have been agreement, was a decision by the industry to limit production to what was actually needed.

The first practical step in that direction was taken when the producers of Oklahoma decided to limit production to 650,000 barrels a day. That step, of course, would have been impossible five years ago because the industry at that time had no idea of co-operation or conservation such as has since been gained through the slow process of education and experience.

The agreement to reduce Oklahoma's output to 650,000 barrels prepared the way for the Sunday shut-down experiment, encouraging a few companies to put it into effect immediately.

As a consequence production Monday morning was nearly 80,000 barrels less than production Sunday morning.

This, too, with but a few companies adopting the Sunday shut-down. What the reduction would be if it were made general throughout the industry is easily calculated—approximately one-seventh. Of course, it is improbable that it would work out as mathematically exact as that, but it is certain that enough overproduction can be cut out through Sunday shut-downs to balance supply and demand when the industry determines to do it.

Five years ago any such agreement, besides being flouted as impossible "because oil men can't be got together" would have been prevented by the fear of governmental interference. But in the interval we have had a clearing of the air on this proposition and instead of fearing the Government, Federal or State, the industry is finding the heartiest co-operation from federal and state officials with the tacit approval of popular opinion.

The only danger now of governmental interference is if the industry fails to get together and do what it ought to do in curtailing overproduction.

In these circumstances and conditions there was no longer any excuse for the industry failing to keep production down to demand. How to do it was as simple as limiting production to a stated amount or as adopting the Sunday shut-down. As has been repeatedly said in these columns there is no question of the industry's ability to solve its own problems if it really goes at them seriously.

We have learned a lot, too, about the effect of shutting in production. It used to be said that it could not be done, that the wells would not come back. Now we know better.

It was said that production could not be shut down one day a week because of drilling offsets, but a one-day shut-down would affect both producing and drilling well alike, the producer would be one day behind in production and the driller one day behind in getting production.

In Winkler County the shutting in of wells was at first regarded as a hardship. Now it has been proved so effective in keeping back water and avoiding the expense of treating that it is being proposed to restrict the allowable production 50,000 barrels more in order to prolong production and increase the ultimate output.

Conservation of gas is winning support in California for the same reason, that in the end it will be more profitable, both in checking flush production and increasing ultimate recovery.

It has taken a long time to convince the industry that flush production is a detriment to be minimized as much as possible. It means cheapening the price of oil, already below what it is really worth to either the producer or the consumer. It means waste of the gas energy required to enlarge recovery. It may mean, as in Winkler County, hastening the encroachment of water, shortening the life of a field.

Orderly production, keeping supply in line with demand at all times, is the sound and sensible policy, both for its effect on prices, and for economy in operation and efficiency in recovery.

We have had various schemes suggested and considered but in the end the simplest and most direct way, keeping production down to what is actually needed, involved no elaborate program or complicated machinery.

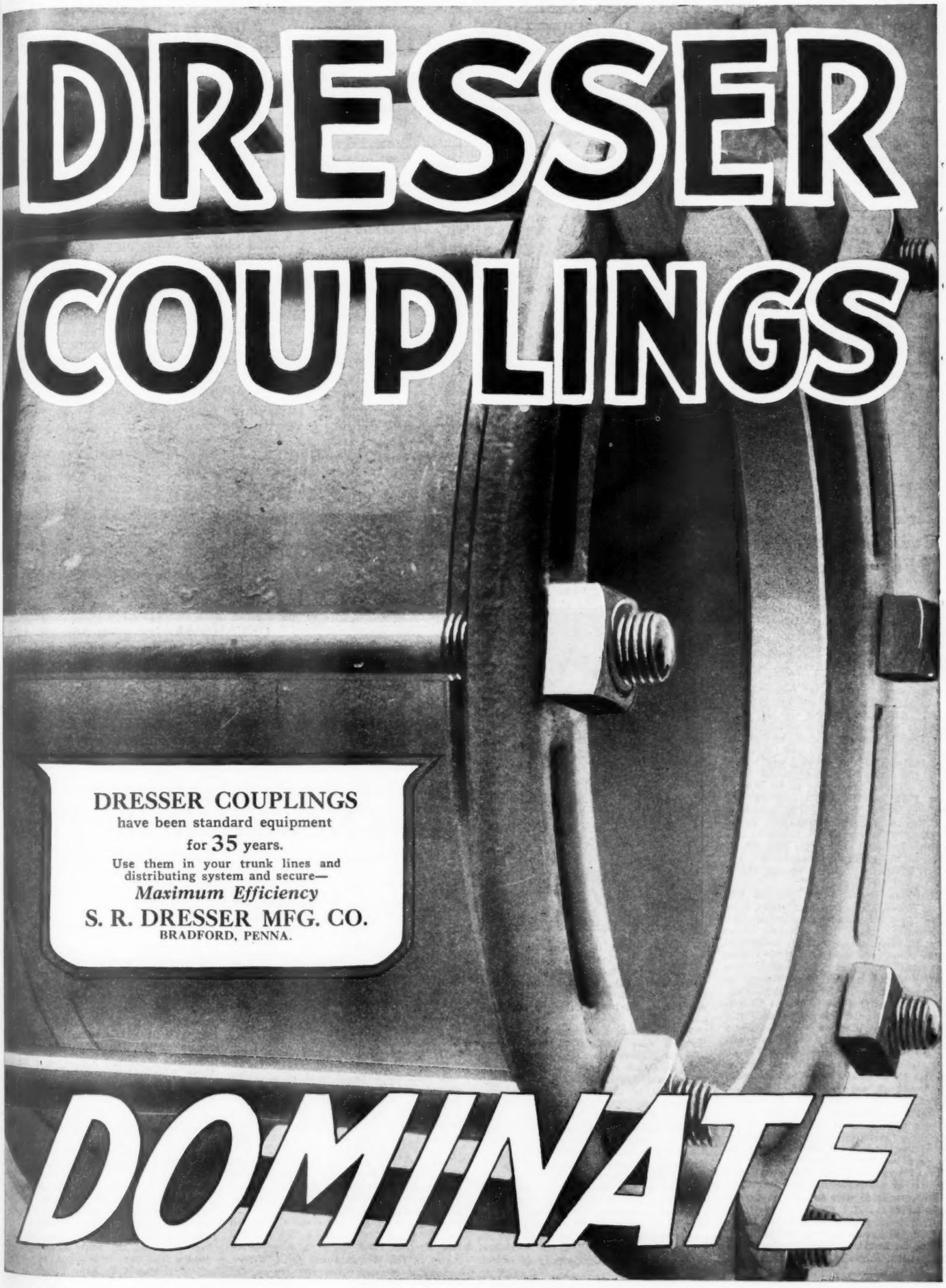
This demonstration comes at a particularly fortunate moment when the regional committees of the American Petroleum Institute are making surveys of the various areas with a view to the proposed plan for world curtailment.

With the facts established as to the production and demand in each area it should be a simple business proposition to chart an economic system of distribution and production in line with those facts.

To continue to waste our substance in uneconomic competition involving altogether unnecessary expenses and losses would be as foolish as to continue overproducing crude seven days a week.

The work of the regional committees will no doubt encounter the same skepticism which met the movement for co-operation in its early stages. It will be pronounced impractical or indeed impossible because of clashing interests but these have been shown convincingly to be secondary to the overshadowing interests of the industry as a whole in the matter of overproduction and this will be found just as true in any other division of the business.

If the industry is to thrive it will need to sink these minor differences for the common good and the sooner it makes up its mind to that effect the sooner it will reach a sound and substantial basis.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# A.I.M.E. ANNUAL MEETING DISCUSSES CONTROL OF PETROLEUM PRODUCTION

By A. E. Mockler

NEW YORK, Feb. 23.—An interesting discussion of world petroleum problems in the form of a Symposium on Foreign Petroleum Production in 1928, was feature of the annual meeting of the Petroleum Section, American Institute of Mining and Metallurgical Engineers here. A. R. Denison, division geologist of the Amerada Petroleum Corp., Fort Worth, Tex., was chairman of the group meeting. In addition to the papers published in The Oil and Gas Journal last week papers were presented by George Anagnostache of the Rumanian Legation in Washington, on the Rumanian oil situation; J. M. Sobral, on production in the Argentine, and G. R. Elliott, on the Canadian situation.

The session on petroleum economics attracted a large attendance. Campbell Osborn served as chairman of this group meeting. Besides the paper by Charles J. Deegan, published in The Oil and Gas Journal last week, H. J. Struth, petroleum economist, of Houston, Tex., spoke on the tendency of refiners to overproduce gasoline and other products, and J. Elmer Thomas, of Fort Worth, Tex., and M. D. Gould, New York, in a joint paper on "The Market Action in Oil Securities," argued that closer control in the oil industry would bring about larger earnings and thus create an advance in securities prices.

The value of chemical analysis of oil field waters as a means of solving the water problem in drilling for petroleum was emphasized by United States Government experts at the petroleum engineering session presided over by A. W. Ambrose, of the Empire Oil & Refining Co., Bartlesville, Okla. J. S. Ross, petroleum engineer, and E. A. Swedenborg, assistant chemist, both of the United States Geological Survey, presented a paper in which they made recommendations based on seven years laboratory work in the Salt Creek Field in Wyoming.

At the afternoon session devoted to petroleum engineering, presided over by C. V. Millikan, chairman of the petroleum engineering group, the following papers were presented: "Factors Controlling Spacing of Wells," by Robert Phelps; "The Effect on Producing Wells of Shutting in Offset Wells," by C. M. Nickerson (published in The Oil and Gas Journal last week); "Repressuring at Santa Fe Springs," by A. C. Rubel, and "Manufacture of Nitroglycerin and the Use of High Explosives in Oil and Gas Industry," by C. O. Rison.

George Otis Smith, director of the United States Geological Survey, retiring president of the Institute, was the chief speaker at the annual dinner.

In the discussion of control of pro-

(Continued on Page 147)

## Interior Regional Committee Prepares For General Session

A well-attended meeting of the Interior Regional Committee appointed by President E. B. Reeser, of the American Petroleum Institute to study the petroleum situation was held in Tulsa, Monday. W. C. Franklin, vice president of the Tidal Oil Co., chairman of the committee presided.

The intense interest oil men take in the situation in which the oil industry finds itself was attested by the very thorough discussion of the problems that beset the business in which most of the committee members took part. The actual business of the meeting was to appoint the delegates to the general meeting of all the committees to be held in New York on March 15 and Ben N. Stephens of the Magnolia Petroleum Co. and Roy B. Jones of Panhandle Refining Co., were named to represent the Interior Regional Committee with W. N. Davis of the Phillips Petroleum Co. and W. S. Fitzpatrick of the Prairie Oil & Gas Co. as alternates.

Chairman Franklin and Messrs. Stephens, Jones, Davis and Fitzpatrick were named as a subcommittee to procure the information which the delegates must have at their disposal for presentation at the New York meeting and they were instructed to report back to another meeting of the regional committee to be held previous to the New York meeting.

The general session on March 15 will be a meeting of the Committee on World Production and Consumption, made up of the chairman, R. C. Holmes; the heads of the Regional Committees, K. R. Kingsbury, George S. Davison, W. C. Franklin and E. J. Sadler; and two members from each of the regional committees, elected by such committee.

The work ahead of the general committees and regional committees is of such a monumental character it is expected the meeting on March 15 will be one of a number of such sessions.

The Interior Regional Committee was the first to meet. The following members of the committee were present in person or by proxy:

J. E. Holm, representing E. H. Blum, Atlantic Oil Producing Co., Dallas, Tex.; William N. Davis, Phillips Petroleum Co., Bartlesville, Okla.; A. M. Gee, represent-

(Sontinued on Page 151)

## JOHN B. CORRIN MARRIED FEB. 20 IN WILKINSBURG

John B. Corrin, vice president and general manager of the Hope Natural Gas Co. and the Reserve Gas Co., and probably the best known natural gas man in

John B. Corrin

the United States, was married February 20 to Mrs. Nellie M. Douglass, in Wilkinsburg, Pa. They will be at home after April 1 at 1341 Singer Place, Wilkinsburg.

Mr. Corrin is a past president of the Natural Gas Association of America, now the Natural Gas Department of the American Gas Association. He was one of a committee of 10 nationally prominent men in the natural gas industry appointed by the then Secretary of the Interior, Franklin K. Lane, to make definite recommendations regarding the natural gas problems outlined in the resolutions of the national conference on natural gas conservation sponsored by the United States Bureau of Mines.

Mr. Corrin's marriage probably will result in a record attendance at the natural gas convention in Kansas City in May. John never misses one of these annual meetings and every gas man and his brother, probably, will avail themselves of the opportunity personally to extend congratulations.

# High Spots in Field News

### NORTH LOUISIANA-ARKANSAS

Plans being made to deepen old East El Dorado East Field wells.

### ROCKY MOUNTAIN AREA

Work begun on Lea County, New Mexico, pipe line.

New location in Jal district. Freak showing at Lyons, Colo.

Much interest in Vineland area near Pueblo.

### WEST TEXAS

Winkler County meeting to consider reduction of allowable production by 50,000 bbls., recommended by Umpire Alsobrook and Chairman Landreth.

Three wildcat tests attracting attention in West Texas.

### SOUTHWEST TEXAS

Joe Bruner Field production now around 30,000 bbls. may reach 50,000 bbls. New gas, oil and water sand in Duval County.

Possible new shallow pool southwest of Minerva-Rockdale.

### CALIFORNIA

First peak of year believed reached in Santa Fe Springs. Deeper drilling may give pool two more production highs. Kettleman Hills not expected to enter picture until late in year but Lawndale, Elwood Terrace and Seal Beach expected to show increased production.

### GULF COAST

Potential production of new Clay Creek Field in Washington County was increased materially by Sun Oil Co.'s offset flowing estimated 1,500 bbls. from sand at 936-1,154 feet.

Producer completed in new dome indicated by geophysical exploration at Point Barre, St. Landry Parish, La. Well flowed only one day but looks like new field.

### OKLAHOMA

Flush fields shutting down on Sundays. Production reduced 79,000 bbls. through adoption of six-day week by several large companies.

Mission Pool touches 48,840 bbls.

Important failure southwest of Maud region was recorded when Sunray and Cal-Cul Co.'s No. 1 Davis had the hole full of water in Simpson sand. Discovery of water in Simpson has generally preceded water in Wilcox horizon.

# Late News from the Field

### OKLAHOMA

An important failure southwest of the Maud region is the Sunray and Cal-Cul Oil Co.'s No. 1 Davis, Section 19-8-5. This well had a hole full of water in the Simpson sand topped at 4,455 feet, and is now drilling at 4,470 feet. The discovery of water in the Simpson sand in this region has always preceded water in the Wilcox horizon.

West of the St. Louis Pool the Darby Petroleum Co.'s No. 1 Bodkins, SE cor. NW Section 16-7-4, is making 770 bbls. daily from the Hunton lime found at 3,614-3,820 feet (corrected). This is a very thick section of the Hunton lime, and the well has aroused much interest.

A well which found production in the second Wilcox sand is the Sinclair Oil & Gas Co.'s No. 2, NE cor. SW SW Section 11-7-6, which found that sand good for 230 bbls. on the swab. Depth was 4,318-24 feet. This well found a hole full of water in the first Wilcox sand.

On the west side of the Maud Field the Tidal Oil Co.'s No. 3, SE cor. NE Section 12-8-4, swabbed 250 bbls. in the Hunton lime, 4,140-63 feet. The well will be stopped at that depth.

Northeast of St. Louis the Gypsy Oil Co. and others' No. 1 Guinn, NE cor. SE SW Section 9-7-5, found a hole full of water in the Wilcox sand, 4,671-79 feet.

In the Mission area the Gypsy Oil Co.'s No. 2 Mosar, NE cor. SE NE Section 1-8-5, swabbed 1,012 bbls. in 18 hours from the Wilcox sand found at 4,351-56 feet.

### GULF COAST

HOUSTON, Tex., Feb. 26.—Potential production of the new Clay Creek field in Washington County was increased materially when Sun Oil Co.'s No. 5 G. F. Grote came in flowing an estimated 1,500 bbls. of pipe line oil daily from sand at 936-1,154 feet. This is a direct offset to No. 1 Witt, completed three weeks ago flowing an estimated 4,000 bbls.

Vinton Petroleum Co.'s No. 1 Matilda Gray, Vinton, La., came in Monday flowing 350 bbls. daily from sand at 2,722 feet.

### NEW YORK GASOLINE TAX

NEW YORK, Feb. 26.—A gasoline sales tax of 2 cents per gallon has been proposed in the state legislature by both Governor Roosevelt and the Republican majority. Conflicting plans for distributing the proceeds threaten a prolonged dispute and may cause a deadlock on the question. It is estimated that the 2-cent tax will yield the State $22,000,000 annually. The tax, if adopted, will become effective May 1 or June 1.

# Possible New Sand Near Fluhman Pool

## May Mark Half-Mile Extension to West. Activity Around New Fry Sand Pool in Coleman County. Panhandle Increase

By James H. Dameron
*Fort Worth Bureau, The Oil and Gas Journal*

FORT WORTH, Tex., Feb. 25. — A test a half mile west of the western producing limits of the Fluhman Pool southwest of Vernon was the outstanding development in North Texas when the Wichita Falls district wildcat encountered a showing that may prove a third producing horizon for the area.

Vandeventer and associates' No. 1 Shipley picked up a showing in a stray sand at 1,658 feet which is scheduled to be tested during the current week. This well has been more or less in the limelight since it was spudded for the reason it has had two other shows. The first was at 1,490 feet and it is estimated the first and second shows combined would make a 20-bbl. well.

Since finding the third showing the well has attracted considerable attention in the district. Completion of a commercial well would mark a half-mile extension to the area and open up a new producing horizon on the western side.

In other areas of the district only routine developments were reported. A water shortage is materially halting drilling operations in the southeastern Wilbarger County pools and production there continues on its gradual downward trend. In the other counties the inclement weather has caused an enforced shutdown on many rigs and slowing up operations on the others. As a result the total production of the district registered another decline.

### New Fry Sand Pool

Completion of Herbert Oil Co.'s No. 1 Weaver in Coleman County which opened a new Fry sand pool a few weeks ago on a block assembled by Broderick and Calvert, was the outstanding development in the Ranger district. After a 10-quart shot at 1,823½-30 feet the well was completed as a 160-bbl. producer. This wildcat was variously estimated to be good for anywhere between 200 and 300 bbls. but a shot going off before being set is believed to have been the cause for the discrepancy between the actual and estimated production. Three other wells offsetting the new producer are drilling and should reach the pay within a few days. In the same county and in the Haas shallow pool two shallow wells were completed, each good for 20 bbls.

The best completions in the Ranger district continue to be reported in Shackelford County. The Cook Ranch Pool has its weekly quota of good wells but the more prolific initial wells at this time are in the Matthews area south of the Cook Ranch Pool.

### Ranger District

Unlike the other two areas in North Texas Ranger has not suffered as much from cold weather and production there has been fairly constant throughout the cold weeks. A 904-bbl. increase was shown in daily average production in comparison with the estimate for the previous week.

### Panhandle Increase

While still more or less in the grip of cold weather Panhandle's most interesting development was a 2,350-bbl. increase in daily average production. This is a partial recovery of the big drop reported the week before. Most of the increase was in Hutchinson County due to a number of wells going back on production after having been idle for several days. New production also was a contributing factor.

Leading the abbreviated list of completions was Southern Petroleum Exploration Co.'s No. 2 McConnell in Section 174, Block 3, Gray County. The well was completed with an initial production of 500 bbls. from pay at 3,207-21 feet.

The Shamrock area in Wheeler County continues to yield big gas wells. Lone Star Gas Co. completed two, one making 56,000,000 feet of gas and the other gauging 51,000,000 feet.

**Estimated Daily Average Production**
**Week ending February 23**

| Panhandle district— | Bbls. |
|---|---|
| Carson County | 5,680 |
| Gray County | 21,610 |
| Hutchinson County | 25,700 |
| Moore County | 1,665 |
| Potter County | 20 |
| Wheeler County | 525 |
| Total this week | 55,200 |
| Total last week | 52,850 |
| Increase | 2,350 |
| Wichita Falls district— | |
| Archer County | 17,239 |
| Baylor County | 87 |
| Clay County | 435 |
| Cooke County | 2,570 |
| Jack County | 1,720 |
| Montague County | 7,082 |
| Throckmorton County | 705 |
| Wilbarger County | 26,663 |
| Young County | 7,303 |
| Wichita County | 28,120 |
| Total this week | 91,924 |
| Total last week | 92,789 |
| Decrease | 865 |
| Ranger district— | |
| Brown County | 8,962 |
| Callahan County | 3,688 |
| Coleman County | 3,724 |
| Comanche County | 1,175 |
| Palo Pinto County | 384 |
| Ranger | 5,775 |
| Shackelford County | 12,990 |
| Stephens County | 7,085 |
| Total this week | 43,783 |
| Total last week | 42,879 |
| Increase | 904 |
| Grand total this week | 190,907 |
| Grand total last week | 188,518 |
| Increase | 2,389 |

## WICHITA COMPLETIONS

**Week Ended February 23**

### Archer County

Akin & Rayzor's No. 1 Finley was dry and abandoned at 1,755 feet. McCarty Oil Co.'s No. 1 McCrary was dry and abandoned at 1,850 feet. Rathke's No. 6 Wilson-A was dry and abandoned at 1,580 feet. C. U. Beasley's No. 1 Abercrombie & Taylor made 62 bbls. at 1,382-84½ feet. Humble Oil & Refining Co.'s No. 2 Hamilton-A made 55 bbls. at 1,178-83 feet. O. R. Jeffers' No. 1 Hamilton was dry and abandoned at 1,115 feet. F. P. Rose's No. 4 Garvey was dry and abandoned at 885 feet. Madden & Hunt's No. 15 Richardson made 20 bbls. at 1,256-79 feet.

### Clay County

R. T. Belcher and others' No. 1 Culbertson was dry and abandoned at 413 feet. Mid-Continent Holding Corp.'s No. 1 Stine and others made 12 bbls. at 1,802-10 feet.

### Cooke County

W. J. Green and others' No. 4 Campbell was dry and abandoned at 825 bbls. Kewanee Oil & Gas Co.'s No. 6 Timmis-A made 133 bbls. at 1,132-1,240 feet. Kewanee Oil & Gas Co.'s No. 1 Timmis-B made 100 bbls. at 1,066-1,205 feet. Shell Petroleum Corp.'s No. 2 Dennis made 100 bbls. at 1,232-55 feet.

### Fannin County

Scrivner & Honea's No. 1 Griffis was dry and abandoned at 1,300 feet.

### Haskell County

Hofmeir & Boyles' No. 1 Jetter was dry and abandoned at 2,722 feet.

### Wichita County

Cable and others' No. 2 Hines was dry and abandoned at 360 feet. Comac and Prairie's No. 4 Bishop made 165 bbls. at 1,781-91 feet. Humble Oil & Refining Co.'s No. 13 Taylor made 38 bbls. at 1,487-93 feet. Magnolia Petroleum Co.'s No. 3 George was dry and abandoned at 1,969 feet. Its No. 6 Pace was dry and abandoned at 1,236 feet. Ryan Petroleum Corp.'s No. 10 Nance was dry and abandoned at 1,485 feet.

### Wilbarger County

Derby Oil Co.'s No. 2 Waggoner-C made 141 bbls. at 2,367-76 feet. Fain McGaha Oil Corp.'s No. 3 Waggoner-AA made 120 bbls. at 2,379-89 feet and 2,389-2,405 feet. Lawson's No. 15 Waggoner-B made 108 bbls. at 2,313-40 feet. Phillips Petroleum Corp.'s No. 8 Waggoner-Q made 35 bbls. at 2,335-37 feet and was drilled to a total depth of 2,354 feet. Waggoner Refining Co.'s No. 3 Waggoner-K made 370 bbls. at 2,317-68 feet and 2,386-88 feet. Its No. 4 Waggoner-K made 200 bbls. at 2,300-38 feet.

### Young County

Fain McGaha Oil Corp.'s No. 5 Campbell was dry and abandoned at 950 feet. King Royalty Co.'s No. 14 Stewart made 15 bbls. at 823-34 feet. Its No. 15 Stewart was dry and abandoned at 862 feet. Its No. 16 Stewart made 3 bbls. at 821-31 feet. Its No. 17 Stewart made 15 bbls. at 805-28 feet. Its No. 18 Stewart made 20 bbls. at 810-24 feet. Its No. 19 Stewart made 20 bbls. at 809-20 feet. Its No. 20 Stewart made 10 bbls. at 831-41 feet. Its No. 21 Stewart made 50 bbls. at 834-44 feet. Its No. 22 Stewart was dry and abandoned at 850 feet. Its No. 23 Stewart made 75 bbls. at 837-53 feet. May Camp Drilling Co.'s No. 1 Prideaux made 51 bbls. at 561-63 feet. Panhandle Refining Co.'s No. 13 Prideaux-C made 5 bbls. at 619-24 feet. Perkins & Cullum's No. 3 Gragg was dry and abandoned at 852 feet. Their No. 4 Gragg made 12 bbls. at 766-98 feet. Their No. 7 Stewart made 25 bbls. at 798-815 feet. Their No. 8 Stewart made 7 bbls. at 777-97 feet. Their No. 9 Stewart made 8 bbls. at 766-97 feet. Their No. 10 Stewart made 11 bbls. at 781-91 feet. Their No. 11 Stewart made 18 bbls. at 748-87 feet. Their No. 12 Stewart made 25 bbls. at 733-76 feet. Their No. 13 Stewart made 22 bbls. at 753-86 feet. Their No. 14 Stewart made 20 bbls. at 765-805 feet. Their No. 15 Stewart made 47 bbls. at 750-98 feet. Their No. 16 Stewart made 28 bbls. at 754-803 feet. Their No. 17 Stewart made 30 bbls. at 754-87 feet. Paul Oil Co.'s No. 6 Allen made 35 bbls. at 2,090-2,100 feet.

## WILDCAT OPERATIONS IN TEXAS PANHANDLE

**Week ended February 23**

**CARSON COUNTY**

| Company, well, farm, name, section and block— | Remarks— |
|---|---|
| Denson et al's No. 1 W. E. Cobb, 930 ft. from N line, 280 ft. from E line, W½ NW, Sec. 184, Blk. 2, I.&G.N. Sur. | S.D. 2,200 ft. |
| Delmar Oil Co.'s No. 3 Noel, 330 ft. from E line and 990 ft. from N line W½ SE, Sec. 198, Blk. 3 | Drilling 2,430 ft. |
| Gulf Prod. Co.'s No. 1-E Cooper, 330 ft. S and W of NE cor. SW, Sec. 5, Blk. 9, I.&G.N. Sur. | Drlg. 100 ft. |
| Holmes et al's No. 1 Quinn, 330 ft. from S and 330 ft. from E line SW, Sec. 7, Blk. 9, I.&G.N. Sur. | Set 6-in. 2,790 ft. |
| Marland Prod. Co.'s No. 1 Burnett-L, 440 ft. S and 1,320 ft. W of NE cor. Sec. 79, Blk. 4, I.&G.N.R.R. Sur. | Fishing 340 ft. |
| McElroy Oil Co.'s No. 1 Lewis, 330 ft. S and E of NW cor. of SW of NE Sec. 115, Blk. 4, I.&G.N.R.R. Sur. | Rig. |
| Morris et al's No. 1 Barnard, NW cor. SW SE, Sec. 44 | Fishing 2,200 ft. |
| Reynolds et al's No. 1 E. Cooper, 330 ft. from S line and 330 ft. from E line NW, Sec. 5, Blk. 9, I.&G. N.R.R. Sur. | S.D. 2,890 ft. |
| Spartan Oil Co.'s No. 1 S. Bednorz, NW cor. E½ NW, Sec. 202, Blk. 3, I.&G.N. Sur. | Set 6-in. 2,658 ft. |
| Skelly Oil Co.'s No. 1 Hedrick, 660 ft. from N line and 660 ft. from W line Sec. 239, Blk. B-2, H.&G.N. R.R. Sur. | Building rig. |
| Skelly Oil Co.'s No. 11 Schaffer, 330 ft. from S line 990 ft. from the W line, Sec. 88, Blk. 4, I.&G.N. R.R. Sur. | Drlg. 2,350 ft. |
| Skelly Oil Co.'s No. 12 Schaffer, 330 ft. from S line and 1,650 ft. from the W line of Sec. 88, Blk. 4, I.&G.N.R.R. Sur. | C.O. 1,107 ft. |
| Travis et al's No. 1 D. A. Harrell, C NE NE, Sec. 162, Blk. 7, I.&G.N. Sur. | Drlg. 3,160 ft. |
| Ware et al's No. 1 Ware, 990 ft. S and 400 ft. E NW cor. Sec. 18, Blk. 3, A.B.&M. Sur. | Drlg. 3,995 ft. |

**CASTRO COUNTY**

| | |
|---|---|
| Colorado O. & R. Co.'s No. 1 M. Siemmons, SW cor. Sec. 73, Blk. M-17, B.S.&F. Sur. | Rig blown down. |
| Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE, Sec. 333, Blk. M-6, S.K.&K. Sur. | S.D. 510 ft. for csg. |

**CHILDRESS COUNTY**

| | |
|---|---|
| C. L. Soane et al's No. 1 B. P. Smith, Sur. 49, F. P. Knott lands | S.D. 4,145 ft. |
| The Texas Co.'s No. 1 Smith, 100 ft. each way from NW cor. Sec. 174, Blk. H, W.&N.W. Sur. | Hole full sulphur wtr. 3,985 ft.; S.D. 4,605 ft. |

(Continued on Page 95)

## RANGER COMPLETIONS

**Week Ended February 23**

### Brown County

M. T. Anderson's No. 1 Newton was dry and abandoned at 1,335 feet. J. B. Bryson's No. 1 Bull location was abandoned. Cranfill & Reynolds' No. 1 Marr was dry and abandoned at 1,300 feet. Cranfill & Reynolds' & Bradstreet's No. 5 Eubanks-B was drilled to a total depth of 1,241 feet after having been shot with 5 quarts at 1,220-29 feet and made a 30-bbl. well. Culberson Brothers' No. 1 Suttles was temporarily abandoned. Daniels and others' No. 1 Naron was temporarily abandoned. Daniels and others' No. 1 Naron was temporarily abandoned at 360 feet. Herring & Anderson's No. 1 Edmonton was dry and abandoned at 1,381 feet. Holerman and others' No. 1 McClanahan was temporarily abandoned at 557 feet. Humble Oil & Refining Co.'s No. 19 Hodnett-A was shot with 10 quarts at 1,180-90 feet and made 25 bbls. The Texas Company's No. 4 Byler made 81 bbls. at 1,296-1,320 feet. Corrita Oil Co.'s No. 1 Low was temporarily abandoned at 600 feet. H. P. Evans' No. 1 Tervooren made 60 bbls. at 989-94 feet. Gore & Brown's No. 3 Mayes made 12 bbls. after having been shot with 20 quarts at 632-50 feet. Hammon & Garrett's No. 1 Strange was dry and abandoned at 1,265 feet. Indian Petroleum Co.'s No. 1 Boysen was dry and abandoned at 1,734 feet. W. L. Spence's No. 1 Brown was dry and abandoned at 615 feet.

### Callahan County

Moutray Oil Co.'s No. 14 Hatchett made 30 bbls. at 352-66 feet. Reiter-Foster Corp.'s No. 19 Hatchett location was abandoned. It's No. 21 Hatchett location was abandoned. Its No. 28 Hatchett made 25 bbls. at 329-35 feet. The Texas Company's No. 20 Hatchett location was abandoned. Its No. 21 Hatchett made 25 bbls. at 340-57 feet.

### Coleman County

Herbert Oil Co.'s No. 1 Weaver made 160 bbls. after having a 10-quart shot at 1,823½-30 feet. Magnolia Petroleum Co.'s No. 22 Morris was dry and abandoned at 3,600 feet. Morrison and others'

(Continued on Page 150)

# Wildcat Developments in West Texas

## Ward County Well Believed Running High. Northwestern Pecos Tests Show Oil. Howard County Had Best Wells

By James H. Dameron
*Fort Worth Bureau, The Oil and Gas Journal*

FORT WORTH, Tex., Feb. 25.—Developments in three wildcat areas of West Texas held the center of interest in field developments of that area while a movement to lop off approximately 50,000 bbls. of daily production in West Texas occupied the interest of producers in curtailment programs. Because of material increases in Howard and Winkler County production West Texas climbed upward 8,300 bbls. to 380,431 bbls. daily, according to the most recent estimates. Reports on crude movements for the middle of the month, however, show another decline in runs to storage bringing that figure down to around 21,115 bbls. daily.

In the wildcat areas, Atlantic Oil Producing Co. and Delmar Co.'s No. 1 Hayzlett, Section 17, Block 5, Ward County, offsetting the Shipley discovery well in that county, is believed by several geologists to be running high. They are calling the lime top 2,390 feet where 6-inch pipe was cemented.

The discovery well was completed at 2,482 feet making better than 100 bbls. Production dropped and when the well was cleaned out the drop in production was traced to paraffin trouble. Since being cleaned out it is making better than 100 bbls. daily. The plug was drilled in the offset Sunday and Monday the well was reported drilling below 2,400 feet. Barring accidents the well should reach the pay the early part of the week.

### Pecos Wildcats

Going on down south into northwestern Pecos County, Pecos Valley Oil Co.'s No. 2 fee, Section 22, Block 10, H.&G.N. Survey, in the territory opened by the Pecos Valley Co., has a hole full of oil from pay at 1,617-25 feet. The hole is being filled with rocks to get a casing seat.

Six miles south of this territory, McCarty Oil Co.'s No. 1 Gray, Section 591, is being cleaned out and is slopping oil from pay at 1,162-64 feet. The well has made a few small heads while casing was being run.

Atlantic Oil Producing Co.'s No. 1 Sellman, Section 19, Block Z, another Pecos County wildcat, that showed much promise when it encountered a showing at 1,846-56 feet was a disappointment at 1,864 feet where it had sulphur water. The test encountered the first water at 1,860 feet. It has been plugged.

### No Unusual Wells

West Texas was without any unusual big wells during the past week for the first time in a long time. The best completion of the week was in the Yates Pool when the California Co. completed a well good for 8,450 bbls. daily. It was the single producer of the four completions in the county, the other three being dry holes.

Hendricks also was shy of big wells. The best of the group was Humble Oil & Refining Co.'s No. 8 Hendricks-B, which was completed making around 7,000 bbls. of net oil daily. The well came in making 386 bbls. of fluid hourly, 25 per cent water from pay at 2,620 to 2,710 feet. The next best completion was in the Leck area when Warner Quinlan Co.'s No. 1 Daugherty was completed making 87 bbls. hourly. The well, however, on another test made 150 bbls. hourly. In this area, Amerada Petroleum Corp.'s No. 3 Daugherty apparently is doomed for failure. It had a show at 3,188-91 feet but has been drilled to 3,209 feet without any increase.

Down south of the Hendricks Pool in the O'Brien Pool, Simms Oil Co. and Southwest Production Co.'s No. 1 Sealy continues to have the earmarks of the best producer in the erratic pool. It had an increase at 2,935 feet and 2,957 feet and was drilling Monday at 2,967 feet with a hole full of oil. Independent Oil & Gas Co.'s No. 1 Russell, in Section 27, Block B-12, is running low and is drilling at 3,000 feet.

### Howard County Completions

As a whole the Roberts and Settles Pools in southern Howard County had the best completions of the week. Howard County Oil Corp.'s No. 1 Kloh, western extensioner of the Settles Pool was completed making 1,020 bbls. on a swab test. The best producer was Laurel and Cosden & Co.'s No. 9 Roberts which made 1,680 bbls. initially.

Howard County was featured by another trade when the Marland Production Co. gained control of the Superior Oil Co.'s holdings in the Roberts Pool. The deal involved the N half of Section 136, and the NW of Section 137, both in Block 29. The leases have 20 wells on them with a potential production of 9,867 bbls. and an allowed production of 4,824 bbls. Up until February 1 the two leases had a recovery of 629,540 bbls. No consideration was made public. This is the third time these two leases have changed hands. Marland company also assumed operation of the joint leases owned by Texon Oil & Land Co. and Marland company. In the change of operation of leases there was no change in the joint ownership of the companies in these tracts.

Another deal in West Texas involved Crane County acreage. A. B. Slemp, president of the Pioneer Oil & Refining Co., San Antonio, purchased the W half of SW, Section 39, Block 30, and the SE SW, Section 34, Block 30, from Church, Fields, Harrison and Weekly, for a consideration of $360,000 cash and $100,000 in oil to be paid out the first 18 months. The leases have around 600 bbls. of daily production.

### New High for Deepest Well

Texon Oil & Land Co.'s No. 1-B University, in the Big Lake Pool, Reagan County, and the world's record deep well, reached a new high in production for the 24-hour period ending Saturday morning by gauging 2,017 bbls. of 56.3 gravity oil. The gas production likewise increased to close to 20,000,000 feet daily. Production of the well on the following day fell off, however, to 1,975 bbls. the following day and 1,910 bbls. the next day.

West Texas operators were deeply interested in the efforts of the Winkler County Advisory Committee to reduce runs in Winkler County to 125,000 bbls. daily from 175,000 bbls. daily. This action is being taken to check the water encroachment in the Hendricks Pool which is growing more alarming. A meeting will be held Wednesday of this week, and it is hoped by the committeemen that it will not be necessary to hold a hearing before the Railroad Commission.

Production of West Texas after declining the previous week climbed upward to 380,000 bbls. daily, according to the last week's estimate. This increase is due to big increases in Winkler and Howard County production.

### Runs to Storage Decline

Crude oil movements in West Texas for the week ending February 14 showed another decline in runs to storage, pipe line runs decreased to 266,693 bbls. daily, but tank car shipments were up to 41,206 bbls. daily. Runs to refineries were off slightly, totaling 35,149 bbls. daily. This is a total disposition of 343,048 bbls. daily against a daily average production of 364,163 bbls., leaving 21,115 bbls. to be run to storage daily.

Shell Pipe Line Corp. is reported to be making rapid progress in the construction of its 10-inch welded oil carrier running from McCamey to the Gulf Coast at a terminal near Houston. Gangs are working below Austin. The Texas Pipe Line Co. is experiencing difficulty in the rapid construction of its 12-inch line to the coast.

Magnolia Pipe Line Co. was reported a few weeks ago as planning construction of an 8-inch line from its Midland tank farm to the Magnolia company Halley tank farm in Section 6, Block 11, Winkler County. This line will be a 10-inch welded carrier and will parallel the Atlantic Pipe Line Co.'s 10-inch line out of Hendricks to Midland. The Magnolia company has an 8-inch line, looped part of the way, running east from Midland to DeLeon, thence to the Gulf Coast. Another 8-inch system ties into this line at Midland from the Church and Fields Pool in Grant and Upton Counties and serves as a feeder from that area.

Formerly the Atlantic company ran the Magnolia company's Winkler County oil, but upon completion of the Atlantic company's line from Midland to Port Arthur this arrangement was discontinued. Gulf Pipe Line Co. is building an 8-inch line from Midland to Hendricks. Both of the latter projects are expected to be completed within a few weeks.

Figures compiled by production scouts show West Texas to have a total recovery of 203,623,876 bbls. from 2,069 wells up until February 1 this year. The big bulk of this oil was produced in Winkler County, with Crane and Upton Counties next in order and Pecos County ranking third.

### ESTIMATED DAILY AVERAGE PRODUCTION WEST TEXAS
**Week Ended February 23**

| County— | Wells | Prod. |
|---|---|---|
| Crane County | 276 | 36,942 |
| Crockett County | 45 | 2,141 |
| Ector County | 2 | 7 |
| Fisher County | 7 | 906 |
| Glasscock County | 16 | 622 |
| Howard County | 264 | 44,655 |
| Jones County | 73 | 5,903 |
| Loving County | 8 | 367 |
| Mitchell County | 141 | 2,604 |
| Pecos County | 291 | 83,572 |
| Reagan County | 240 | 18,081 |
| Runnels County | 3 | 120 |
| Scurry County | 5 | 21 |
| Upton County | 264 | 13,554 |
| Ward County | 1 | 100 |
| Winkler County | 542 | 170,451 |
| Total this week | 2,178 | 380,431 |
| Total last week | 2,153 | 372,110 |
| Difference | 25 | 8,321 |

### WEST TEXAS COMPLETIONS

#### Crane County

Duffey and others' No. 4 Cowden, 1,320 feet from south and 440 feet from west of NE cor., Section 18, Block X, had an initial production of 110 bbls. in 14 hours at 2,395-2,432 feet.

#### Dawson County

Magnolia Petroleum Co.'s No. 1 W. A. Jetter, C, Section 1, Block 34, Township 4n, was dry and abandoned at 4,339 feet.

#### Coke County

Louisiana Oil & Refining Corp.'s No. 1 Power was dry and abandoned at 3,777 feet.

#### Howard County

Cosden & Co.'s No. 2 Roberts-C, located 1,540 feet from south and 990 feet from east of Section 128, Block 29, made 125 bbls. at 1,283-1,366 feet. Moody Oil Co.'s No. 4 Roberts-B, located 2,310 feet from north and 330 feet from west of Section 137, Block 29, had an initial production of 1,042 bbls. at 2,955-68 feet. Laurel and Cosden's No. 9 Roberts, 1,650 feet from south and 330 feet from east of Section 136, Block 29, had an initial production of 70 bbls. hourly at 2,950-78 feet. Pure Oil Co.'s No. 10 Chalk, 330 feet from south and 990 feet from east of Section 125, Block 29, topped the pay at 1,700 feet, was drilled to a total depth of 1,731 feet and had an initial production of 135 bbls. Sun Oil Co.'s No. 6 Settles, 915 feet from south and 330 feet from east of Section 135, Block 29, had an initial production of 30 bbls. hourly at 2,520-56 feet. Howard County Oil Corp.'s No. 1 Kloh and

(Continued on Page 149)

## WILDCAT OPERATIONS IN WEST TEXAS

**Week Ended February 23**

| Company, farm and location— | Remarks— |
|---|---|
| **ANDREWS COUNTY** | |
| Deep Rock Oil Co.'s No. 1 Hostetler, 2,310 ft. N and W of SE cor. Sec. 20, Blk. A-46 | Hole full water 1,290 ft.; underreaming 10-in. casing; top salt 1,890 ft.; drlg. 2,835 ft., salt and anhydrite. |
| **BORDEN COUNTY** | |
| Gibson & Johnson's No. 1 Higginbotham, middle of S line of Sec. 8, Blk. 31, Twp. 3n, T.&P.R.R. Sur. | Building rig. |
| C. E. Hyde et al's No. 1 H. D. Beal, C NE Sec. 14, Blk. 31, Twp. 3n, T.&P.R.R. Sur. | Rigging up. |
| Texas & Wheeler's No. 1 Long, 1,320 ft. N and E of Sec. 27, Blk. 30, T.&?. Sur. | Location. |
| **BREWSTER COUNTY** | |
| E. W. Bateman et al's No. 1 Nevill, 2,000 ft. from S line and 1,000 ft. from W line of Sec. 64, Blk. 13, G.H.& S.A.R.R. Sur. | Shut down 1,926 feet; show oil and gas. |
| Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor. Sec. 4, Blk. G-15, G.C.&S.F. | Drlg. 700 ft. |
| Cowden & Bowser's No. 1-A Jackson & Harmon, Sec. 1, Blk. 331, T.C.R.R. Sur. | Set 8-in. 1,530 ft.; shut down 2,000 ft. |
| Forrest Oil Co.'s No. 1 Skinner, C SW SE Sec. 100, Blk. 2, G.C.&S.F. Sur. | Shut down 1,310 ft.; show oil 1,300 ft. |
| J. M. Hickey's No. 1 Jackson & Harmon, NE cor. Sec. 182, Blk. 9, G.H.&S.A. Sur. | Shut down 1,150 ft. |
| Johnson & Weekly's No. 1 Jackson & Harmon, C Sec. 104, Blk. 10, G.H.&S.A. Sur. | Moving in material. |
| Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 mi. S of Alpine | Shut down 1,740 ft. |
| Williams and others' No. 1 Poncey, 459 ft. S and 1,062 ft. E Sec. 26, Blk. 214, T.&St.L.R.R. Co. | Shut down 515 ft. |
| **COKE COUNTY** | |
| Cates & Dennis' No. 1 Mimms, 2,500 ft. S and 330 ft. E of NW cor. Sec. 47, Blk. 4, T.&P. Sur. | Underreaming 1,585 ft. |
| Cates & Dennis' No. 2 Mimms, 2,340 ft. N and W SE cor. Sec. 8, Blk. W, T.&P. Sur. | Spudded and shut down. |
| Lipan Oil Co.'s No. 1 E. C. Rawlings, Sec. 390, Blk. 1-A, H.&T.C. Sur., elev. 2,750 ft. | Shut down 2,860 ft. |
| Mid-Kansas Oil Co.'s No. 1 W. E. Lackey, 330 ft. N and E of SW cor. Sec. 272, Blk. 1-A, H.&T.C. | Drlg. 3,090 ft.; hole full salt water 3,060 ft. |
| **CONCHO COUNTY** | |
| Duffey & Silk's No. 1 Hill, 150 ft. N and E of SW cor. Sec. 8, Blk. 70, H.&T.C. | Drlg. 1,830 ft. |
| Duffey & Silk's No. 1 Lovelace and Lockett, 1,056 ft. N and 540 ft. W of SE cor. Sec. 66, Blk. 70, H.&T.C. Sur. | Shut down 650 ft. |

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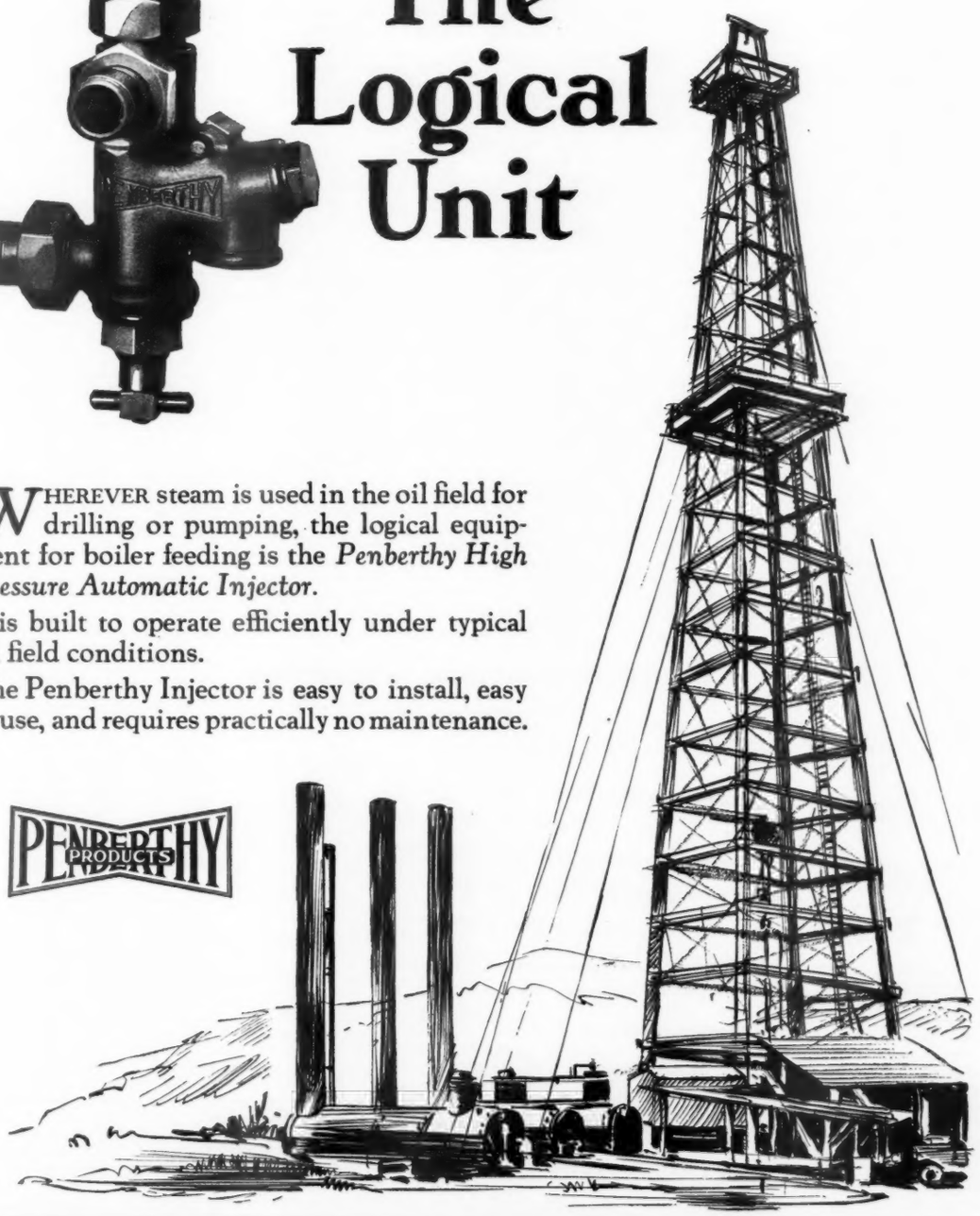
# The Logical Unit



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# Flush Fields Shutting Down Sundays

## Production Reduced 79,000 Bbls. Through Adoption of Six-Day Week by Many Large Oil Companies. Mission Pool Touches 48,840 Bbls.

By J. L. Dwyer

The first full week of proration in the flush fields of Oklahoma was marked by a very slight decrease in output through actual proration. The movement of shutting down all producing wells on Sunday, however, did gain much support, and will very likely become general in scope. This move has gained the favor of the majority of operating companies, many of whom believe that the six-day week in oil production would result in far greater efficiency from the field forces, which have always been accustomed to the seven-day week.

In the matter of development, there was a dearth of interesting news, and the majority of wells which were placed on production were inside locations which exerted no special influence upon the fields.

The Mission Pool has temporarily taken the spotlight, forcing the Maud Field to the background. There were several additional completions recorded in Mission last week, with very little to cause any change in the former estimates which this department has advanced regarding the peak of the pool. The new wells give further reason to believe that the Mission operation will have a peak between 60,000 and 70,000 bbls. daily.

The majority of the completed wells at Mission have now been placed on the air lift method and the best well in the pool flowed only 1,300 bbls. daily. The average completion at Mission has been around 700 bbls. in daily initial output. This must not be taken as depreciatory of Mission, for it is believed that with the careful attention which has been given to the matter of preservation of gas pressures, the field will be long lived. The wells for the most part have only been drilled 5 or 6 feet into the sand.

### Maud Field

In the Maud Field there are two Wilcox sand wells which have showed better than the average. The Barnsdall Oil Co.'s No. 2 Coker, NE cor. SE SW Section 11-8-5, had the Wilcox sand 4,281-93 feet, and flowed 2,840 bbls. on air lift. This is a much better rate of flow than most of the wells have experienced. No. 4 Coker, NE cor. SW Section 11-8-5, flowed 2,195 bbls. from the sand found 4,151-60 feet. The Prairie Oil & Gas Co.'s Billington lease in the NW of Section 11-8-5 is developing good production from the Misener sand, and it may indicate that good wells in this horizon may be expected on the north flank of the Wilcox sand structure. In the northwest part of the township, there are many wells which are reaching an interesting depth, and which may be completed within three weeks. The possibility of finding good Wilcox oil on the west side of Township 8-5, and the east side of Township 8-4 is not fading out, but seems to be more likely to occur. The Twin State Oil Co.'s No. 2 Calvin NW cor. SW Section 7-8-5, which is flowing 400 bbls. daily from the Simpson sand has given much weight to the theory that the Wilcox sand in this region will be found in a favorable position. The Twin State well is the first Simpson sand well to be found in this locality, and is therefore of exceptional importance.

### Sunday Shut-Down Effect

The production which was eliminated by the Sunday shut-down is estimated at 79,037 bbls. The Greater Seminole Field on Sunday morning, February 24, produced 315,014 bbls., while on Monday it gauged 248,025 bbls. The St. Louis Field also showed the effects of Sunday shut-down. On Sunday morning it produced 116,125 bbls., and on Monday 104,177 bbls.

The Mission Pool attained a new peak this week when it touched 48,840 bbls. on Saturday morning. This figure includes the production of almost all of the first group of wells which were started November 15, 1928. It was anticipated they would make around 75,000 bbls. when finally drilled in.

In the St. Louis Pool, there was considerable decline in output by many wells. The Slick & Maud Oil & Gas Co.'s No. 2 Davis in Section 18-7-5 was conspicuous in this respect, and it has declined from an initial output of better than 5,000 bbls. in December to 1,500 bbls., its current production. The well is also increasing in cut oil, and is now cutting 52 per cent. The diagonal offset to this well seems to be a failure. It is the Sinclair Oil & Gas Co.'s No. 1 Nesbitt, NE cor. SE NW Section 18-7-5, which has 2,000 feet of water in the hole from the Wilcox sand 4,151-66 feet.

On the west side of the St. Louis Pool the Mid-Kansas Oil & Gas Co.'s No. 2 James, NW cor. SW NW Section 25-7-4, an old well drilled deeper, is good for 650 bbls. in the Wilcox sand, 4,400-11 feet. This well is an air lift and is free from water. Just west of the Mid-Kansas' No. 2 James, the Magnolia Petroleum Co.'s No. 2 Cherry-A, in Section 26-7-4, is swabbing 900 bbls. from the Wilcox, found 4,326-43 feet.

### Pipe Line Runs

The daily average pipe line runs out of the St. Louis Pool for the week ending Saturday, February 23, follow:

| | Bbls. |
|---|---|
| Consolidated | 3,897 |
| Gulf | 8,576 |
| Independent | 8,389 |
| Magnolia | 27,109 |
| Oklahoma | 9,314 |
| Prairie Pipe | 26,939 |
| Shell | 3,200 |
| Sinclair | 22,306 |
| Texas | 5,989 |
| Tidal | 2,450 |
| Total | 118,177 |

Near Okemah in Okfuskee County, John Cary and the Producers & Refiners Corp. has a good well in the Dutcher Pool, under development there. No. 2 Monarye, SW cor. NE SE Section 29-12-10, had sand 3,113-26 feet, and gauged 400 bbls. daily. The Champlin Refining Co. has a well in the same pool; it is No. 1 Campbell, SE cor. NE NW Section 29-12-10, which is good for 300 bbls. in sand 3,152-60 feet.

### Beckham County

Benedum & Trees' No. 1 Brown, SW cor. Section 30-8-25w, is spudding. E. L. Martin's No. 1 Daly, C. NW SE, Section 1-8-25w, has been abandoned at 3,036 feet.

### Carter County

Shell Petroleum Corp. made location for No. 1 Johnson, SE cor. NW SW, Section 18-4s-1w. Simpson & Fell's No. 1 Dickerson, SE cor. Section 23-1s-3w, was completed for 37 bbls. in sands at 2,6[illegible] feet to 3,005 feet.

### Coal County

McGinley & Sigler made location for No. 1 Wiltsey, NW cor. SE SE, Section 7-2-8.

### Comanche County

Wirt Franklin Oil Corp.'s No. 1 Hollow, NW cor. Section 2-4-11w, has been abandoned at 3,630 feet.

### Creek County

Magnolia Petroleum Co.'s No. 15 Matselman, NW cor. NE NW SE, Section 8-18-7, is drilling deeper at 2,405 feet. Curtis Oil Co.'s No. 1 Adams, NW cor. Section 15-18-9, has been abandoned at 3,189 feet. Cole and others made location for No. 1 Hull, NE cor. NW SE, Section 32-18-11. Billingslea & Shaffer's No. 2 Lewis, SW cor. Section 10-15-8, is rigging up to deepen. Olean Petroleum Co. has the rig on the ground for No. 5 Bigpond, NE cor. Section 30-15-7. Wilcox Oil & Gas Co. made location for No. 1 Craig, NW cor. Section 30-14-10.

William Sherry and others' No. 1 Natharkey, C SW NE, Section 24-9-9, has been abandoned at 3,065 feet. Benpal Oil Co.'s No. 10 Tiger, SW cor. NW SW Section 17-17-7, made a 60-bbl. well in sand at 2,807-27 feet. Lebow Oil Co.'s No. 17 Tiger, NE cor. NW NW, Section 17-17-7, Drumright Field, is dry and abandoned at 2,910 feet.

Shaffer Oil & Refining Co.'s No. 1 Cain, SE cor. NE SE, Section 18-17-7, made a 20-bbl. well in sand at 2,775-2,824 feet. Twin State Oil Co.'s No. 1 Coachman, SE cor. NW NE, Section 20-17-7, was completed for 80 bbls. in sand at 2,745-76 feet. Dixie Drilling Co.'s No. 1 Roberts, NE cor. SW, Section 30-17-9, is dry and abandoned at 2,745 feet. Shell Petroleum Corp.'s No. 1 Byrd, NE cor. NW NW, Section 15-15-8, made 45 bbls. from Wilcox sand at 3,804-26 feet.

### Cotton County

Perkins & Cullum's No. 5 Friday, NE cor. NW NE, Section 3-2s-10w, is drilling at 100 feet.

### Grady County

Oklahoma Gas Utilities Corp. has rig timbers on the ground for No. 3 Dryden, NW cor. SE NE SE, Section 35-5-8w, Chickasha gas field. Meridian Gas Co. has the tools in for No. 4 Woods, NW cor. Section 2-4-8w.

### Grant County

Larutan Fuel Co.'s No. 1 Flood, NW cor. SE, Section 23-27-3w, Deer Creek area, has been abandoned at 662 feet. Sooner State Oil Co.'s No. 1 Boyce, SW cor. NW, Section 34-26-4w, has been abandoned at 550 feet.

### Harper County

A. F. Kopisch Oil Co.'s No. 1 Selman, NE cor. SE, Section 24-27-21w, has been abandoned at 108 feet.

### Hughes County

Independent Oil & Gas Co.'s No. 1 Yahola, SE cor. SW NE, Section 6-8-9, is a location. Location has been made for No. 1 Marshall, NE cor. NW, Section 7-8-9. No. 1 Harjo, NE cor. NW NE, Section 7-8-9, was completed for 67,000-000 feet of gas in Cromwell sand at 3,347-51 feet. The Prairie Oil & Gas Co.'s No. 1 Yargee, C NW SW, Section 27-9-10, made 9,250,000 feet of gas at 3,173 feet.

### Jefferson County

O. V. Beck's No. 1-A Seay, SW cor. SE, Section 34-6s-5w, is rigging up rotary.

### Kay County

Marland Production Co.'s No. 2 North, NW cor. SW, Section 6-26-1w, Hubbard Pool, is preparing to plug back from 3,672 feet to the Layton sand and shoot. Carter Oil Co. and Ona Oil Co.'s No. 9 Shimp, CEL W half SW SW, Section

## WILDCAT OPERATIONS IN OKLAHOMA

### NORTHERN OKLAHOMA

**LATTIMER COUNTY**

Company, farm and location— Remarks:

Limestone Oil & Gas Co.'s No. 1 McMurray, SW cor. SW Sec. 15-5-18 ..... 1,000,000 ft. gas 2,518-20 ft; U.R. csg.

**GRANT COUNTY**

Cowden and others' No. 2 Vollmer, CEL NE SW Sec. 22-25-4w ..... Shut down 5,640 ft.

Lario-Lathrop's No. 1 Cornell, NW cor. NW Sec. 24-28-3w ..... Drlg. 3,075 ft.

**HARPER COUNTY**

Hoffer Oil Co.'s No. 1 Cooper, NW cor. SE SE Sec. 12-25-22w ..... Shut down 4,130 ft.

**KAY COUNTY**

Wentz Oil Corp.'s No. 1-A Ward, C NW SE SW Sec. 32-27-1e ..... Drlg. 2,360 ft.

**WOODWARD COUNTY**

Sharon Oil Co.'s No. 1 Elmore, SW cor. SW Sec. 25-21-21w ..... Rig blown down 3,025 ft.

Billy's Oil Co.'s No. 1 Watt, C SE Sec. 9-23-20w ..... Shut down 2,342 ft.

Burgoyne Brothers' No. 1 Merkina, SW cor. SE NE Sec. 15-21-19w ..... Shut down 1,910 ft.

Wilson et als' No. 1 Unknown, NE cor. SW Sec. 4-23-16w ..... Rig.

**GARFIELD COUNTY**

E. L. Love and others' No. 1 White, SE cor. NW Sec. 9-24-6w ..... Shut down 4,755 ft.

**GARVIN COUNTY**

Mid-Continent Petroleum Corp.'s No. 1 James, SE cor. SE Sec. 22-5-3 ..... Spudded.

**NOBLE COUNTY**

Alco Royalty Co.'s No. 1 Waltermire, SE cor. NW Sec. 33-21-1w ..... Drlg. 2,880 ft.

Marland Oil Co.'s No. 1 Kidd, NW cor. SW Sec. 33-20-1w ..... Shut down 5,290 ft.; plugging back to show oil 1,836 ft.

**KINGFISHER COUNTY**

McKinney & Crawford's No. 1 Sturgeon, NE cor. SW Sec. 27-16-6w ..... Shut down 4,895 ft.

**LOGAN COUNTY**

Haley & Smith's No. 1 Guier, SE cor. SW Sec. 23-18-3w .. U.R. 3,970 ft.

J. L. Donahoe's No. 2 fee, SW cor. NW SE Sec. 21-18-2w .. Dry and abd. 6,022 ft.

**BLAINE COUNTY**

Lowen and others' No. 1 Unknown, NW cor. SW NW Sec. 27-16-11w ..... Spudded and shut down; renewing leases.

W. J. Donnelly, trustee's, No. 1 Dickens, NE cor. SE Sec. 26-15-12w ..... Shut down 4,509 ft.

Ragland and others' No. 1 Unknown, C NW SW Sec. 13-19-10w ..... Rig.

**LINCOLN COUNTY**

Phillips Pet. Co.'s No. 1 Stephens, SE cor. NW Sec. 29-12-3 ..... Rig.

Morgan & Flynn's No. 1 Finlay, SW cor. SW Sec. 19-16-6 ..... Rig.

Wheeler & Mote's No. 1 Kemmer, NW cor. NE SW Sec. 2-16-5 ..... Drlg. 2,045 ft.

**McLAIN COUNTY**

Empire Oil & Ref. Co.'s No. 1 Bonner, SE cor. NW NW Sec. 29-5-3 ..... Dry and abd. 4,800 ft.

**MUSKOGEE COUNTY**

Elk Drilling Co.'s No. 1 Jones, SW cor. SW Sec. 34-13-17 ..... Shut down 400 ft.

L. T. Haney's No. 1 Mitchell, SE cor. NW SE Sec. 33-13-18 ..... Drlg. 2,340 ft.

J. L. Slusher's No. 1 Nave, NE cor. SW NW Sec. 20-15-20 ..... Shut down 775 ft.

Colton & Lester's No. 1 Ellington, SW cor. NW SW Sec. 25-12-19 ..... Location.

Colton & Lester's No. 1 Parker, C NW SW Sec. 31-12-19 .. Drlg. 478 ft.

(Continued on Page 114)

17-29-1, was completed for 175 bbls. in Wilcox sand at 3,329-52 feet. No. 1 Shimp, C NW NW, Section 20-29-1, made 228 bbls. in Wilcox sand at 3,405-29 feet. Marland Production Co.'s No. 1 North, SW cor. Section 6-26-1w, Hubbard Pool, plugged back from 3,664 feet to 2,995 feet and then abandoned.

**Kiowa County**

D. M. Hyde made location for No. 1 Ballard, NW cor. Section 26-3-18w. Thomas Medlin's No. 1 Prough, NE cor. SW. Section -8-6-16w, has been abandoned at 500 feet.

**Marshall County**

W. W. Fleming and others' No. 1 Null, CSL NE NW, Section 24-5s-5, has been abandoned at 766 feet.

**Muskogee County**

Bryan & Emery's No. 1 Tucker, SE cor. SW SE, Section 5-15-15, made 10 bbls. from sand at 1,635-40 feet. Grubbs & Young's No. 3 Friday, CWL SW NW, Section 8-15-15, was deepened to sand at 1,190-1,203 feet and completed for 120 bbls. J. L. Nourse and others' No. 1 Ware, NW cor. SW, Section 8-15-15, has been abandoned at 1,222 feet. H. Smith's No. 2-A Franklin, CNL NW NW, Section 30-15-16, is dry and abandoned at 1,913 feet.

**Okfuskee County**

Producers & Refiners Corp. and others moved the rig out for No. 3 Monarye, NW cor. SE SE, Section 29-12-10. C. L. McMahon made location for No. 3 Fixico, SE cor. NW SE, Section 29-12-10. Barnsdall Oil Co. made location for No. 1 Barnett, SE cor. NE SE, Section 24-11-10.

Champlin Oil & Refining Co.'s No. 1 Campbell, SE cor. NE SW, Section 29-12-10, was completed for 290 bbls. in sand at 3,147-60 feet. No. 11 Tucker, SE cor. NE SW, Section 15-11-11, was completed for 150 bbls. in sand at 3,492-3,511 feet. J. S. Cosden's No. 4 Barnett, NW cor. SW SW, Section 19-11-11, made 110 bbls. from sand at 2,305-17 feet. F. D. Misner and others' No. 2 Johnson, NW cor. SW NE, Section 2-10-11, made a 5-bbl. pumper in sand at 1,768-85 feet.

**Okmulgee County**

Trout Drilling Co. has the rig up for No. 1 Bruner, NW cor. SW SE, Section 20-16-14. Forman & Wise moved a machine to the location for No. 5 Rowe, NE cor. Section 10-15-14. Tiger Mountain Oil Co.'s No. 2 S. Tucker, CWL NE SE, Section 2-13-14, is underreaming 5-inch casing at 2,551 feet.

W. B. Pine's No. 1 Doyle, NE cor. SE NW, Section 18-15-13, was completed for 3,500,000 feet of gas in sand at 2,186-87 feet. Sidwell Drilling Co.'s No. 3 Lunsford, NE cor. SW SW, Section 4-14-11, has been abandoned at 2,530 feet. Miller and others' No. 1-A Bright, NE cor. SE SE, Section 2-14-12, is dry and abandoned at 2,724 feet. J. J. Kearney's No. 3 Furr, NE cor. SW, Section 21-11-12, is dry and abandoned at 1,753 feet.

**Osage County**

Nath Jones is moving a machine in for No. 1, SE cor. SW, Section 2-26-8. Producers & Refiners Corp. and Peters Petroleum Corp.'s No. 2, SW cor. SE NW, Section 11-26-8, is a rig under construction. Peters Petroleum Corp. is erecting the rig for No. 9, NW cor. SE NW, Section 26-25-9. Silurian Oil Co. made location for No. 1, NW cor. SE SE, Section 1-23-11. Mid-Kansas Oil Co. has a machine on the location for No. 5, NE cor. SE SW, Section 36-22-8.

The Texas Company's No. 1, NW cor. SE, Section 22-24-7, swabbed 275 bbls. from Wilcox sand at 2,887-2,914 feet. Winona Oil Co.'s No. 11, CWL SW, Section 25-24-9, made 4 bbls. from Bartlesville sand at 2,070-92 feet after deepening. Gypsy Oil Co. and Marland Oil Co.'s No. 1, NE cor. NW NE, Section 16-23-7, swabbed 100 bbls. from sand at 3,013-78 feet.

Silurian Oil Co.'s No. 1, SW cor. NE, Section 12-23-11, is dry and abandoned at 1,728 feet. Mid-Co Oil Co.'s No. 3, NW cor. SW SW, Section 24-21-8, has been abandoned at 1,225 feet. Oklahoma Power & Water Co.'s No. 113, NW cor. SW SE, Section 30-21-10, was completed for 15 bbls. in Bartlesville sand at 1,927-73 feet. Tidal Oil Co.'s No. 1, NE cor. NW SW, Section 29-21-11, is dry and abandoned at 2,594 feet.

**Pawnee County**

Mowry & Fugate's No. 1-A Turner, CWL NW NW, Section 18-20-8, is spudding. Superior Oil Corp. and Swift's No. 1 Daniels, SW cor. NW NE, Section 35-20-9, is rigging up. Magnolia Petroleum Co.'s No. 2 Newell, SW cor. NW SW, Section 2-20-6, made 4,750,000 feet of gas from sand at 3,004-23 feet. Hemlock Oil Co.'s No. 1 Williams, NE cor. Section 8-20-9, is dry and abandoned at 2,998 feet.

**Pontotoc County**

Carter Oil Co.'s No. 1 Bates, SE cor. NW, Section 36-5-7, is rigging up. Louisiana Oil Refining Corp.'s No. 18 Perry, NE cor. NW NE, Section 19-5-8, Allen Pool, made 600 bbls. from sand at 2,540-2,654 feet. Wilcox Oil & Gas Co.'s No. 1 Norris, SE cor. NE NE, Section 14-4-7, is dry and abandoned at 2,190 feet.

**Pottawatomie County**

Empire Oil & Refining Co. and Amerada Petroleum Corp.'s No. 2 Bullock, NW cor. NE NW, Section 8-9-5, Earlsboro Pool, is a rig being built. Pure Oil Co. has the cellar dug for No. 2 Wallace, SE cor. SW NW, Section 17-8-5, Maud Pool. Skelly Oil Co. made location for No. 1 Wallace, SW cor. SE NW, Section 17-8-5. Phillips Petroleum Co. has dug the cellar for No. 3 Wallace, NE cor. NW SW, Section 17-8-5. No. 4 Wallace, NW cor. NE SW, Section 17-8-5, is also a cellar.

Magnolia Petroleum Co. made location for No. 1 Caudle, NW cor. SW, Section 13-7-4, St. Louis Pool. Houston Oil Co. staked location for No. 1 James, NE cor. NW SW, Section 17-7-4. Magnolia Petroleum Co. made location for No. 2 M. Wilbarn, SE cor. NW SE, Section 24-7-4. Gypsy Oil Co.'s No. 2 Roseman, SE cor. NW NE, Section 26-7-4, is preparing to deepen from 4,095 feet. Magnolia Petroleum Co. staked location for No. 5 C. Youts, SE cor. NE SW, Section 20-7-5.

Amerada Petroleum Corp.'s No. 1 Ballard, SE cor. SW SE, Section 1-8-4, Maud Pool, was completed for 940 bbls. in Hunton lime at 4,150-53 feet. No. 3 Hallum, SW cor. SE SE, Section 1-8-4, made 650 bbls. from Hunton lime at 4,108-56 feet. The Texas Company's No. 1 Calvin, NE cor. SE, Section 7-8-5, came in for 120 bbls. at 4,190 feet. No. 3 Calvin, NW cor. NE SE, Section 7-8-5, was completed for 365 bbls. in Hunton lime at 4,129-65 feet, total depth 4,170 feet.

Gypsy Oil Co.'s No. 3 Bourassa, SW cor. SE NE, Section 7-8-5, has been completed for 48,000,000 feet of gas in Misener sand at 4,047-52 feet. Wilcox Oil & Gas Co.'s No. 2 Smith, SW cor. NW SE, Section 8-8-5, made 192 bbls. from Hunton lime at 4,112-56 feet. Pure Oil Co.'s No. 4 Wiley, NW cor. SW NW, Section 8-8-5, flowed 1,985 bbls. from Hunton lime at 4,053-60 feet. Magnolia Petroleum Co.'s No. 2 Billington, NW cor. NE SW, Section 8-8-5, had Hunton lime at 4,402-20 feet and made 593 bbls.

Skelly Oil Co. and Margay Oil Co.'s No. 1 Linger, SW cor. NW NE, Section 18-8-5, flowed 3,708 bbls. from Hunton lime at 4,145-75 feet. Laurel Oil Co.'s No. 1 Billington, SE cor. NE NW, Section 18-8-5, was completed for 995 bbls. in Hunton lime at 4,160-90 feet. Gypsy Oil Co.'s No. 3 Miller, SE cor. NE SE, Section 18-8-5, produced 8,470 bbls. from Misener sand at 4,026-30 feet.

Magnolia Petroleum Co.'s No. 1 Gassaway, SE cor. SW SW, Section 12-7-4, St. Louis Pool, is dry and abandoned at 4,536 feet. No. 3 Cherry "B," SE cor. SW NE, Section 26-7-4, swabbed 152 bbls. from Simpson sand at 4,190 feet. Tidal Oil Co.'s No. 2 Smith, SE cor. NW SE, Section 26-7-4, flowed 1,705 bbls. from Hunton lime at 3,930-54 feet.

**Seminole County**

Pure Oil Co. made location for No. 1 Weaver, NE cor. SW NE, Section 12-8-5, Mission Pool, Gypsy Oil Co. is moving in tools for No. 8 N. Barkus, NW cor. SE SW, Section 6-8-6. Shell Petroleum Corp. and Papoose Oil Co.'s No. 8 Maines, SW cor. Section 7-8-6, is a rig under construction. Gypsy Oil Co. made location for No. 4 S. Barkus, NW cor.

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# WATER IN OUTSIDE WELLS BECOMES PROBLEM IN SEDGWICK AREA

By J. L. Dwyer

There were few interesting developments in the Sedgwick County region of Kansas last week. The majority of the outside wells are now making considerable water, in fact sufficient water to constitute a problem. The wells around the discovery well of the Gypsy Oil Co., Marland Production Co. and the Bu-Vi-Bar Petroleum Co., in Section 12-26-1w, are free from any water trouble, but the Marland Production Co.'s No. 1 Goodrich in Section 16-25-1e, is increasing in water content, and the Aladdin Petroleum Co., Slick and others' No. 1 Smyser, in Section 36-25-1w, is also showing more water.

There were no completions in the Sedgwick region this week, and there are many wells which should touch the sand within three or four weeks. One interesting development in this territory was the Van Zant & Mason wildcat in Section 19-25-1w, north and west of the main body of drilling. This well had the Mississippi lime at 3,390-98 feet and is making three bailers of water daily. Owing to the depth of the well, and the fact that the Mississippi lime was found so low it may be abandoned at this position, as the consensus of opinion indicates a very limited chance for finding the Wright pay in a favorale position.

In Sumner County the Gypsy Oil Co.'s No. 1 Williams, in Section 16-35-3w, a wildcat operation, has some oil in the hole. A sand was found at 4,428-46 feet, and the well made one small flow. It is standing with 2,000 feet of oil in the hole, and has a fishing job occasioned by three strings of tools being lost. It looks as if this well may open some production in this part of Sumner.

In McPherson County there was a sharp revival of interest probably caused by the core drill. Township 19-5w seems to have experienced a sudden interest from a leasing standpoint. The activity started rapidly, and seems to have died out just as suddenly.

**Sedgwick Production**

The production of the wells in the Sedgwick area on Saturday, February 23, follows:

| | |
|---|---|
| Gypsy, Marland, Bu-Vi-Bar: | |
| No. 1 Wright | 1,049 |
| No. 2 Wright | 1,428 |
| No. 1 Lyons | 1,424 |
| No. 2 Lyons | 680 |
| No. 1 Lantz | 658 |
| Marland Production Co.: | |
| No. 1 Goodrich | 1,375 |
| Mary Jane Oil Co.: | |
| No. 1 Fitch | 840 |
| Aladdin-Slick et al: | |
| No. 1 Smyser | 415 |
| Hays & Reynolds: | |
| No. 1 Roll | 687 |

**Butler County**

Shell Petroleum Corp. made location for No. 1 Penner, NW cor. NE, Section 15-24-3. Smith & Ash's No. 1 Cameron, NE cor. Section 8-24-6, is a rig under construction. Empire Oil & Refining Co.'s No. 2-C Hutchinson, NE cor. NW, Section 34-27-5, has been completed for 125 bbls. in sand at 2,715-49 feet. No. 1 Kidwell, NW cor. SE NW, Section 8-29-5, is dry and abandoned at 2,900 feet.

**Cowley County**

Foster Petroleum Co. made location for No. 1 Mitchell, SE cor. NE SE, Section 9-32-4. T. B. Slick is building the rig for No. 3 Youle, SE cor. Section 9-32-4. J. A. Hull's No. 18 Kupuh, NE cor. SE NE, Section 24-32-4, was completed for 200 bbls. in sand at 3,005-50 feet.

**Cloud County**

Concordia Oil & Producing Co.'s No. 1 Murdock, SE cor. Section 6-6-4w, has been abandoned at 3,670 feet.

**Ellis County**

Gypsy Oil Co. has the rig up for No. 1 Weiland, SE cor. Section 36-12-16w. The Prairie Oil & Gas Co. made location for No. 1 Wieland, SE cor. NW, Section 1-13-16w. Midwest Exploration Co.'s No. 36 Furthmeyer, SE cor. Section 25-12-16w, was completed for 65 bbls. in sand at 3,064-3,105 feet. Transcontinental Oil Co.'s No. 1 Boettcher, SE cor. NW SW, Section 21-13-19w, has been abandoned at 3,861 feet.

**Greenwood County**

Independent Oil & Gas Co. made loca-

(Continued on Page 126)

## WILDCAT OPERATIONS IN KANSAS

**BARBER COUNTY**

| Company, farm and location— | Remarks: |
|---|---|
| Allison & Fitzwilliams' No. 1 Morrisse, C NW SE SE Sec. 9-30-12w | Rig |
| Barbara Oil Co.'s No. 1 Blunk, C NE NW Sec. 20-34-13w | Drlg. 4,815 ft. |
| Barbara Oil Co.'s No. 1 Lytle, CNL NE NE, Sec. 12-33-13w | Drlg. 4,265 ft. |
| Rolland et al's No. 1 Pickens, NE cor. NW NE Sec. 27-30-14w | Shut down 4,223 ft. |

**BARTON COUNTY**

| | |
|---|---|
| Everett & Wiley's No. 1 Ward, NW cor. SW Sec. 12-20-13w | Shut down 3,948 ft. |
| Mid-West Exploration Co.'s No. 1 Karst, SW cor. SW Sec. 11-16-15w | Drlg. 3,220 ft. |

**BUTLER COUNTY**

| | |
|---|---|
| LaRobb et al's No. 1 Bronsenger, NE cor. SW Sec. 24-27-3 | Rig. |
| Swariz et al's No. 2 Randall, NW cor. NE NW Sec. 22 24-4 | Shut down 2,605 ft. |
| Aladdin Petroleum Co.'s No. 1 Bronsenger, NE cor. SE Sec. 24-27-3 | Rig. |
| Smith & Ash's No. 1 Donnelly, NE cor. NE Sec. 8-24-6 | Rig. |

**CHASE COUNTY**

| | |
|---|---|
| Griener & Fowler's No. 1 Carson, NE cor. NE Sec. 9-21-7 | Shut down 3,162 ft. |

**COWLEY COUNTY**

| | |
|---|---|
| Roth & Faurot's No. 1 Ridding, SE cor. NW SW Sec. 31-32-6 | Drlg. 3,140 ft. |
| Shell Pet. Corp.'s No. 1 Galley, NE cor. NW SW Sec. 18-35-3 | Drlg. 2,620 ft. |
| Pyle & Sutter's No. 1 Lindstrom, SW cor. NE Sec. 9-35-4 | Drlg. 3,297 ft. |
| Empire-Marland-Twin States' No. 1 Feaster, NW cor. NE Sec. 36-32-5 | Pump. 35 bbls. oil and 10 bbls. wtr. daily from 3,165 ft. |
| Crow & White's No. 1 Powers, C NW NE Sec. 9-32-5 | Sand 714-734 ft.; 1,000,000 ft. gas |
| J. B. Markey's No. 1 Tatum, SE cor. SW Sec. 11-31-6 | Shut down 520 ft. |
| Wakefield & Osborne's No. 1 Osborne, NW cor. NE Sec. 18-30-5 | Rig. |

**ELLIS COUNTY**

| | |
|---|---|
| Rush Oil Co.'s No. 1 Gatewood, NW cor. NW Sec. 4-15-20w | Shut down 1,100 ft. |
| Transcontinental Oil Co.'s No. 1 Boetcher, NW cor. SE SW Sec. 21-13-19w | Drlg. 3,915 ft. |
| Finney & Weiner's No. 1 Freeman, SE cor. SW Sec. 24-15-20w | Spudded and shut down. |
| Labette Oil Co.'s No. 1 Urban, NE cor. NW NW Sec. 19-15-16w | Show gas 3,755 ft. |
| Atlantic Oil Prod. Co.-D. B. Mason's No. 1 Gorham estate, C SE SE Sec. 35-15-16w | Shut down 2,790 ft. |
| Derby Oil Co.-Empire Oil & Ref. Co.'s No. 1 Krause, NW cor. SW SW Sec. 17-14-19w | Drlg. 3,860 ft. |
| Phillips Pet. Co.'s No. 1 Brull, C NW Sec. 34-14-17w | Shut down 3,090 ft. |
| Moncrief et al's No. 1 Johnson, SW cor. NE Sec. 9-13-19w | Rig. |
| Caracas Group No. 1 Company's No. 1 Gestner, SE cor. SW NE Sec. 13-13-18w | Drlg. 1,820 ft. |
| Empire Oil & Ref. Co.'s No. 1 Wann, NE cor. NE Sec. 31-12-19w | Drlg. 3,740 ft. |

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# Bruner Field May Reach 50,000 Bbls.

## Now Around 30,000 With Several Wells Ready to Complete. New Gas Oil and Water Sand in Duval County

By B. D. Stevenson
*Staff Correspondent, Southwest Texas Fields*

SAN ANTONIO, Tex., Feb. 25.—Completion of some good wells in the Joe Bruner Field in Caldwell County boosting the production there to around 30,000 bbls. a day and a bunch of other wells on the sand and ready to complete is bringing the prediction that the new Edwards lime producing field will go to 50,000 bbls. by the early summer. It will then be close to the peak of the old Luling Field, which went to a little above 60,000 bbls. This news from the Bruner Field and the completion of a gas, oil and water well on the Driscoll ranch in a new sand in Duval County were the main features of the situation in proven fields last week.

In the new spot in Gonzales County, where Empire Gas & Fuel Co. has one well producing oil at 3,790 feet on the Norwood farm, Cranfill & Reynolds missed the pay on a location on the Webb farm, 600 feet south, and at 4,105 feet is in the Buda, having 275 feet of chalk topped at 3,802 feet. It is dry so far, but there are those who believe it has a chance of picking up production in the Edwards, which is about 200 feet deeper.

In the Joe Bruner Field the Humble Oil & Refining Co.'s No. 3 W. O. Allen, reported early last week completed for 4,000 bbls., looks like a big well, but is not finally completed. It is waiting on cement at 2,705 feet. Humble Oil & Refining Co.'s No. 1 Moses & Baggett made 4,080 bbls. in 24 hours by heads with no water. It is one of the best wells completed and Shell Petroleum Co.'s No. 3 F. Tiller made 3,100 bbls. of oil and 130 bbls. of water in 24 hours. Humble Oil & Refining Co.'s No. 2 Allen flowed 1,000 bbls. by heads in 24 hours at 2,711 feet. Of that, 800 bbls. were made in the first 15 hours. Late last week there were 17 wells either in the pay or with casing set and drilling in that should be completed by the end of this week at least.

### At Completion Depths

Gulf Production Co.'s No. 2 Allen at 2,712 feet, No. 4 Carter at 2,647 feet, No. 1 Tiller at 2,714 feet, No. 2 Tiller at 2,740 feet, No. 5 Tiller at 2,732 feet; Humble Oil & Refining Co.'s No. 3 Allen at 2,705 feet; No. 5 Allen at 2,708 feet, No. 6 Allen at 2,743 feet, No. 4 J. J. Davis at 2,670 feet, No. 2 Moses & Baggett at 2,668 feet, No. 3 Moses & Baggett at 2,666 feet, No. 5 J. B. Tiller at 2,712 feet, No. 6 J. B. Tiller at 2,653 feet; Shell Petroleum Co.'s No. 4 William Moses at 2,689 feet, No. 4 Floyd Tiller at 2,578 feet, Sun Oil Co.'s No. 5 Malone at 2,702 feet, and The Texas Company's No. 6 Merriweather at 2,755 feet are all at completion depths and should be in in a few days. The wells on the Tiller, Moses & Baggett and Allen leases are all in that part of the field where some big wells have been completed lately and which is filling up the gap between the production of the field on the southwest and the Humble Oil & Refining Co.'s two small wells on the Johnson lease 2 miles northeast. Some big wells in this area, like the Humble's wells on the Allen & Baggett and the Shell's well on the Tiller lease, can easily boost the production of that field several thousand barrels.

Capps and others' No. 1 New, a mile northeast of the two Johnson wells of the Humble Oil & Refining Co., has some showings of oil and gas in the Buda at 2,562 feet, the Buda being topped at 2,557 feet. It was last reported rigging up to swab. It topped the chalk at 2,285 feet, which is high enough, and it can easily make a well and extend the field another mile. North of it another mile, Buchanan and others' have spudded in No. 1 Trapp Briscoe, 150 feet from the south line of the P. B. McCreary lease. If the Capps well should prove too far to the east, the Buchanan well will almost surely hit it if the field extends that far north, and it is quite possible for both to get production.

In the area around the Empire Gas & Fuel Co.'s No. 1 Norwood in Gonzales County, 6 miles southeast of the town of Luling and about that far east of the axis of the Joe Bruner Field, in addition to the Cranfill & Reynolds' No. 1 Webb reported above, the Indian Petroleum Co. is down 3,200 feet in No. 1 Karnstadt, and the Empire Gas & Fuel Co.'s river bed well is down below 2,000 feet.

### Laredo District

Robert Driscoll's No. 14 fee in Duval County, where over a year ago he opened up a new producing gas spot, which on a drill stem test made some gas and water and oil, did the same thing again after casing had been set and it was drilled in. It is in sand at 2,892-94 feet. It was in October, 1927, that Robert Driscoll brought in his first well, a 25,000,000-foot gas well in that area in sand at 2,448-69 feet and it opened up an entirely new pool and also gave indication of another fold in that territory to the east of any of the producing folds. The discovery well was No. 8. Driscoll has drilled others down to No. 14 since. Some were gas wells at about the depth of the discovery well. Some were drilled deeper, notably No. 9, which was off to the northwest, and it got some showings of oil at about the depth of No. 14, which is to the southwest of the other tests drilled and a mile southwest of the discovery well. When No. 14 was bailed in last week it made an estimated 10,000,000 feet of gas and 150 bbls. of fluid, of which 30 per cent was water, through a half-inch choke.

### Kohler Pools

The series of folds in the Laredo district, long recognized as the feature of that territory, has been taking on more definite shape every week, but so quietly that it sometimes escapes attention. Humble Oil & Refining Co. on the Kohler ranch a year ago opened an oil field and more recently a gas field a little southeast of the oil field. Last week No. 12 Kohler was completed in sand at 1,817-20 feet, estimated at 10,000,000 feet. The company now has a gas field over 2½ miles long northeast and southwest, with five producing wells of 10,000,000 to 20,000,000 feet each. Three more locations have been made, two of which, if producers, will give the field width; and the other, if a producer, will extend the first another mile southwest. The oil pool on the Kohler ranch consists of four wells all in a group, close together. Humble has not made locations northeast and southwest of it in an effort to extend it. Reiter-Foster Oil Corp. owns a one-fourth interest in the propositions.

### Carolina-Texas

Laredo oil men are expecting an important pool to be developed in the area on the southeast flank of the Carolina-Texas gas field, where Usher Carson has been working and where he had a couple of wells at about 2,600 feet, and where Foster-Barnsley a couple of weeks ago got a 60-bbl. well at about the same depth. Foster-Barnsley's No. 1 Webster is 400 feet southwest of the nearest Usher Carson producer. Shankle and others, at 2,606-10 feet, got one joint of oil and 40 joints of salt water. Now in sand at 3,042 feet, they are making another drill stem test.

### COMPLETIONS

#### Caldwell County

Shell Petroleum Corp.'s No. 2-B Carter completed at 2,671 feet made 321 bbls. in first 24 hours on the pump.

Shell Petroleum Corp.'s No. 4 R. W. Malone, A. Floyd Survey, has been completed at 2,703 feet making 200 bbls. in 14 hours.

Shell Petroleum Corp.'s No. 4 Moes was completed at 2,689 feet making an estimated 600 bbls. daily.

Shell Petroleum Corp.'s No. 3 Floyd Tiller completed at 2,757 feet made 3,100 bbls. of oil and 130 bbls. of water in 24 hours.

Humble Oil & Refining Co.'s No. 2 W. O. Allen completed at 2,711 feet made 1,000 bbls. daily by heads.

Humble Oil & Refining Co.'s No. 3 J. J. Davis completed at 2,700 feet made 50 bbls. on the pump.

#### Bee County

Hurador Oil Co.'s No. 1 G. A. Ray, Pierce Miller Survey, at 2,837 feet has built up gas pressure of 1,100 pounds shut in, and 900 pounds after being opened awhile, where it remains and is counted a good gas well.

#### Atascosa County

W. R. Hamilton's No. 14 R. T. Hughes in Survey 518 in the Somerset Field completed at 1,656 feet made 10 bbls.

#### Nueces County

R. & G. Corp.'s No. 1 Yakey, Lot 2, Section 5, has been completed at 2,021 feet, estimated making 80,000,000 feet of gas daily.

#### Duval County

Magnolia Petroleum Co.'s No. 4-B Hahl, Survey 61, Schoolfield-O'Byrne Field, completed at 2,347 feet, made 10 bbls.

Robert Driscoll's No. 14 Driscoll, Survey 448, Driscoll Field, was completed at 2,894 feet making 10,000,000 feet of gas and 150 bbls. of fluid of which 30 per cent was oil on one-half-inch choke.

Humble Oil & Refining Co.'s No. 12 Kohler, Survey 403, Humble Field, completed at 1,820 feet made 10,000,000 feet of gas daily.

#### Jim Hogg County

Randado Oil Corp.'s No. 33 Palacious, Survey 291, Block 15, has been completed at 1,282 feet making 30 bbls.

#### Webb County

Magnolia Petroleum Co.'s No. 14 Yeager-Strohman, Share 5, Albercas Field, completed at 2,172 feet, is making 100 bbls.

Houston Oil Co.'s No. 19-D Benavides, Survey 753, Block 5, Magnolia-Cole Field, has been completed at 2,348 feet making 300 bbls. daily.

### ABANDONED TESTS

#### Caldwell County

Speer Well Oil Co.'s No. 1 E. L. Mayton, Hector McNeil Survey, is abandoned at 2,810 feet.

H. C. Ratcliff and others' No. 1 Corn Malone, A. Floyd Survey, is abandoned at 2,694 feet.

Luling Oil & Gas Co.'s No. 3 Carter is abandoned at 2,918 feet.

W. R. Alexander's No. 1 New, James Hinds Survey, is abandoned test as is Capps and others' No. 1 New.

George B. Walker and others' No. 1

(Continued on Page 85)

## POSSIBLE NEW SHALLOW POOL OPENED SOUTHWEST OF ROCKDALE-MINERVA

By D. H. Bancroft

SAN ANTONIO, Tex., Feb. 25.—Beyond more or less important showings of either oil or gas or both in some wildcats sprinkled about the country the past week was without much interest. Miller Brothers' No. 1 Gib Springs in Guadalupe County, south of Seguin, that had a showing of oil in the top of the Austin chalk three or four weeks ago and set casing on top of the chalk at 1,980 feet, has drilled through the chalk, getting the base of the chalk at about 2,140 feet and cored from there down to 2,163 feet. It bailed some oil but casing collapsed. This has been straightened out. It will probably drill to the Edwards. Shell Petroleum Corp.'s No. 1 Grein, a little west of the Miller Brothers well, and the Simms Oil Co.'s No. 1 Jandt, 2 miles west of Seguin, have each been abandoned in the Edwards lime with sulphur water.

Davis & Horn's No. 1 Howard on the river, on the south line of Refugio County and southwest of the Refugio Field, had an interesting sand at 2,280-90 feet supposed to correlate with the 1,900-foot sand in the Refugio Field. On a drill stem test it showed some gas but not enough for a well. It is on a line between the Refugio and White Point Fields and in the general direction of the trend of pools in that territory.

### In Cook Mountain

In Fayette County, National Oil Co.'s No. 1 Melcher is in the Cook Mountain at 1,860 feet. It is a sandy shale mixed with shells and the log is running almost to the foot with the geologists' estimates which is making the well look interesting. It was in the Cook Mountain and formations below that expectation of production was strongest and the first sandy, porous formation is expected to develop something.

Some more tests are expected to break out around the Michalk-Clark No. 1 Johnson in Milam County. Rogers & Heep have a block of 1,800 acres the nearest point of which is 1½ miles northeast of No. 1 Johnson and they will be drilling on the block within 60 days. Some other blocks have been got together. No. 1 Johnson has been making some heads. They raised the casing which had been set with packer and it made three heads and was last reported making a barrel an hour. It is some distance southwest of the Rockdale-Minerva Pool. Some further work will be done on the well but it has all the necessary earmarks of opening a new shallow pool. Some major companies have picked up some leases around it. Some of the titles have been a little in question and leases have been in small blocks.

### Duval County

National Oil Co.'s No. 2 Ball is using magnetometer to check location on Block 5 of Ball ranch subdivision. Magnolia Petroleum Co.'s No. A-2 Hahl, Survey 51, located 150 feet to south and east lines, is drilling at 5,330 feet. O. Henry Oil Co.'s No. 1 Henry, Block 1,879 of Mesquite grant, 450 feet to southeast lines and 220 feet to northeast lines, is drilling at 1,758 feet in sand. W. F. Morgan's No. 1 Welder-Woods, Survey 102, located 2,725 feet to east line and 75 feet to south line, is drilling at 1,300 feet.

### Starr County

The Texas Company's No. 1 Ofelia Resendez, Porcion 69, Block 174, located 150 feet to south and east lines, is stand-

(Continued on Page 130)

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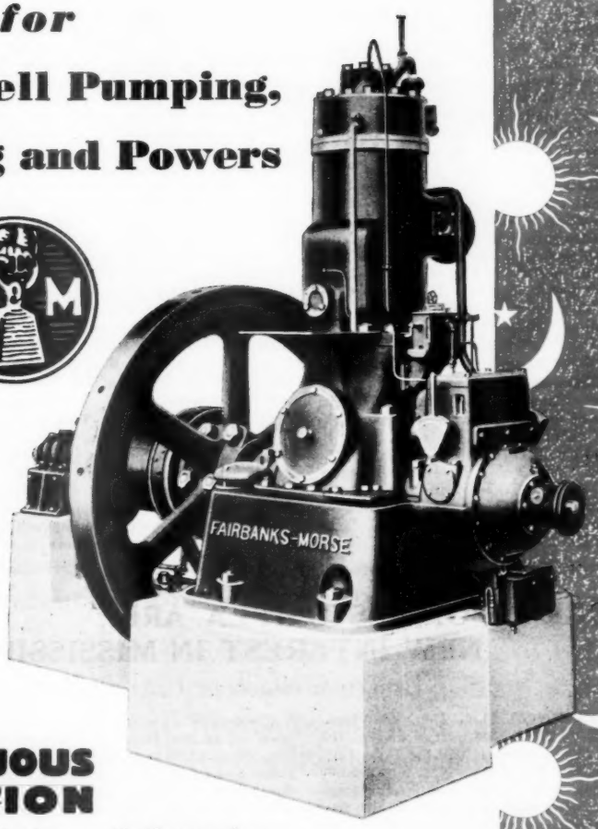


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# CONTINENTAL

# To Deepen Old El Dorado East Wells

## Result of Gulf Refining Co. Well Tapping New Horizon. First Ray Wildcatter Has Had in Some Time

By D. H. Bancroft
*Staff Correspondent, Louisiana-Arkansas*

SHREVEPORT, La., Feb. 25.—Though there is no guaranty that such will be the case, there has been expression of the opinion that Gulf Refining Co.'s No. 2 Gaddy in Section 30-17-14, of the old El Dorado East Field will lead to a revamping of that area through deepening of pumped out wells and small 5 or 10-bbl. pumpers to the new horizon tapped by this completion. A drill stem test of 4 feet of sand, total depth 2,859 feet, last week indicated a 50,000,000-foot gas well and when the standard test was made after cementing 6⅝-inch it came in with 49,918,690 feet of gas and 45 bbls. of fluid, 30 bbls. of it oil. Hooked up to a separator and flowing through a three-quarter-inch choke for five hours it flowed at the rate of 10 bbls. of fluid, 90 per cent water and on pinching it a trifle more did 10 bbls. of 23 gravity oil. Rock pressure on completion was 1,000 pounds but in the week the well has been producing this has dropped to around 900 pounds and oil production has increased to 24 bbls. total production being 240 bbls. of fluid.

Depth of the hole approximates that of the shallow lenses in the Champagnolle Field and future development of the East Side Pool at this depth will probably repeat Champagnolle experiences. Champagnolle, for that matter, is a repetition of earlier experiences in the East Field, for an examination of the records of completed wells in this area reveals production at various levels etween 2,140 feet and 2,280 feet with dry holes and gas wells offsetting producers at any and all depths. Location of the well is in the southwest corner of the East Field approximately 4 miles southwest of the Champagnolle deep sand—3,200 feet—area in which the 2,800-foot lenses have had considerable play lately, and discovery of red bed production will probably result in a renewal of activity in the older pool. Also, it will encourage drilling throughout the border country where there has been a great deal of blocking during the last two months with a score or more deep tests scheduled with red bed production the object.

### Explored Lower Horizons

Except for McDonald Brothers' Wilson well in Ouachita County, it is the first ray of sunshine the wildcatter has had for some time, for in a sense the Gaddy, though in proven territory, was a wildcat in as much as it was drilled to explore lower horizons in an old producing area. The same cannot be said of the Gulf's No. 1 Woodley in Section 6-18-14, 2 miles south except that it, too, is a wildcat though in proven territory. The Woodley was drilled by T. J. Woodley as No. 2 Townsend and abandoned at 3,143 feet as a salt water hole and the Gulf's first test after revamping it, at 3,461-66 feet repeated the performance, the hole filling up 600 feet in less than five minutes. It went on down and was coring at 3,524 feet on last report. The company is preparing to do with No. 8 Goodwin, Section 32-15-15, in the Ouachita County end of Smackover what it did with No. 9-A Goodwin in Section 5-16-15, and the Woodley Townsend—deepen. Several other operators in Smackover are doing the same thing and also perforating for production in the shallow and passed up in drilling for Graves sand production during Smackover's second boom. No. 9-A Goodwin did not turn out so well, tested salt water in 36 feet of broken sand, total depth 2,576 feet and is shut down for orders; No. 8 is rigging up to deepen from 2,372 feet where it pumped 300 bbls. initial.

H. L. Hunt's No. 6 Gregory in Section 15-17-14, Champagnolle, is temporarily abandoned at 3,401 feet, approximately 200 feet below average production depth. It had tested salt water at 2,634-39 feet, the shallowest lense tested in this pool, and had a show of oil at 3,271-3,332 feet and probably will be abandoned or else plugged back and perforated. Lion Oil Refining Co. did not have much luck in trying this maneuver with No. 5 Rowland in the same section. This well made 2,000 bbls. salt water and 100 bbls. of oil at 3,207 feet and was the first put on the air after lifting of the ban against air and gas lift on wells below 3,100 feet. It milled out at 2,845 feet and was put on the air at 2,858 feet resulting in 3,000 bbls. of salt water, cemented again and perforated at 2,742 feet and got salt water and will plug back and perforate for the third time, at 2,700 feet. Magnolia Petroleum Co.'s No. 2 Gregory, also in Section 15-17-14, is standing 2,100 feet in fluid, 2 per cent water, from 2,828 feet and is waiting on standard rig to pump.

### Champagnolle Abandonments

Three Champagnolle projects were abandoned during the week without making any hole; Ohio Oil Co.'s No. 3 W. S. Rowland in Section 15-17-14, Lion Oil Refining Co.'s No. 1 El Dorado Realty Co. in Section 7-17-13, in the extreme southeast corner of the area, abandoned after Magna Producing Co.'s No. 1 El Dorado Realty, one location north, failed to last very long, and A. F. Hatcher and others' No. 1 McCain in Section 4-17-14, on the north edge of the field. G. W. Hooser abandoned No. 4 Slade in Section 3-17-14 after bailing salt water at 3,332 feet, about 100 feet below where he got a similar test and where three other nearby wells were producers.

E. C. Johnson's (Arkansas Drilling Co.) No. 3 Gregory in Section 10-17-14, one of the first locations in the deep sand area staked and the last drilled, pumped an initial 180 bbls. of oil after getting rid of 77 feet of salt water in the hole, total depth 2,787 feet. Mazda Oil Co. abandoned No. 1 Diffie in the NE cor. SE SW, Section 16-17-14, at 3,362 feet. It had filled 17 fourbles with heavy oil and one of salt water when tested at 2,948 feet and was temporarily abandoned last August. Ohio Oil Co.'s No. 2 Frazier, Section 6-17-13, came in flowing 240 bbls. clean oil from 13 feet of sand, total depth 3,054 feet. Oilwell Corp.'s No. 2-A Kelly, Section 9-17-14, which was dry at 3,305 feet, salt water at 3,394 feet and stood 2,100 feet in fluid, 10 per cent water, after cementing back to the shallow sand at 2,824 feet, went on the beam for 310 bbls., 10 per cent water.

### Irma Fault Test

Humble Oil & Refining Co. is drilling below 3,500 feet on No. 2 Hain, their deep test along the fault in the Irma Field of Nevada County without having found anything to warrant a test and will probably abandon the hole within the next two weeks unless there is a surprise in store for everyone. After [illegible] they are expected to move the rig to [illegible] location, probably in Section 17-19-2[illegible] Columbia County, for a test on a 4[illegible] acre block on which they have had [five]-year commercial leases and make a 4,5[illegible] foot test.

Dixie Oil Co. made a 93-bbl. pump[illegible] out of No. 91 Dillon in Section 14-23-1[illegible] Pine Island, on third completion at 3,[illegible] feet. In March, 1928, it flowed 2,[illegible] bbls. initial from 2,702 feet for two da[illegible] and went dead. A month later it [was] resurrected pumping 95 bbls. from [the] same depth and in December it blew [in] with 8,000,000 feet gas from 3,621 f[eet] and then filled up with salt water. Th[en] it was plugged back to 3,611 feet, drille[d] to 3,693 feet, and filled up 900 feet [of] oil on top of 50 feet of water. No. [1] Dillon, the company's 6,000-foot test, [is] expected to get under way again during the latter part of March. It had a [big] show of gas so rich as to indicate [it] not far off in 5 feet of lime and shal[e] at 6,099 feet and bridged. That [was] last November. The bridge was punched out and the hole has been standing full of mud ever since to hold back the gas until a string of flush collar 3½-inch drill stem is delivered. The mills advise that delivery may be expected about March 15. Unless something unexpected happens, the result of further work on this well will be the next big news from north Louisiana. Failing to get production where it is, the hole probably will be carried on to 6,500 feet.

Smitherman & McDonald's No. 1 Miller in Section 17-23-8, Haynesville Field in Claiborne Parish, a community deep test, had a show amounting to 10,000 feet of gas with 25 bbls. of salt water at 4,595 feet and is coring below 4,632 feet. Under the terms of its purchase of a half interest in the well and acreage, Gulf Refining Co. was supposed to take over after it had passed 4,600 feet, but whether this option was exercised has not officially been made known. The general impression, however, is that it has been. The Gulf is not obligated to take the hole to any specified depth but may drill as deep as it pleases or abandon wherever it sees fit.

### Greenwood District

Lorraine Syndicate tested 250,000 feet of gas in No. 1-D Bryson, Section 18-17-16, Greenwood district of Caddo, in the deep stuff at 2,817 feet but passed it up and was drilling deeper. Meanwhile Eastern Carbon Co. (Davis and others of Charleston, W. Va.) who bought the Owl Oil Co.'s production and leases in Greenwood and built a carbon plant which was productive of a great deal of hostile agitation three years ago, has made location for No. 4 Bryson in Section 8-17-16. The first three wells were drilled by the Owl company since when the carbon plant has been abandoned; likewise a gasoline plant.

Magnolia Petroleum Co. completed the second dry hole in the heart of the Richland gas field when it abandoned No. 2 J. Sartor in Section 16-16-6. Dry at 2,450 feet where it might be expected to be a producer, it was dry again at 2,520, 2,562, 2,575 and 2,633 feet. Going back to 2,400 feet they shot the sand but without results. The company's No. 1 Denman in Section 1-22-11, Spring Hill district of Webster Parish, also does not look so good. It had 7 feet of sand showing oil, total depth 2,710 feet, but when bailed developed only salt water with a small show of oil.

Ayers Brothers abandoned No. 6 Tremont, Section 30-10-2e, La Salle Parish (Urania) as a dry hole at 1,575 feet after testing dry in 15 feet of broken

(Continued on Page 121)

## PROGRESS OF TESTS IN LA.-ARK.; NEW INTEREST IN MISSISSIPPI

By D. H. Bancroft

SHREVEPORT, La., Feb. 25.—Igneous rock at 2,700 feet put an end to the Palmer Corp.'s fourth test in East Carroll Parish, Louisiana, No. 1 Mitchner in Section 8-19-11, approximately three-quarters of a mile southeast of the 51,000,000-foot gas well completed on the O'Brien lease in Section 7-19-11, a year ago at 2,354 feet. The well was abandoned after drilling 17 feet into this rock, the first formation of the sort found in that part of the State. It had checked considerably lower than the O'Brien well all the way down revealing the steep slope of the machine high on which both are located. After it had topped the gas rock about 40 feet lower than it was found in the O'Brien well, drilling was continued more for geological information than in hopes of its ever being a gas well, and as such furnished some valuable information.

The test on the Baker farm in Section 26-20-7, Claiborne Parish, 7 miles south of the Homer Field which was begun by the El Dorado Chief Oil Co. and taken over by A. C. Glassell, found the top of the Nacatoch at 2,180 feet at which it is about 20 feet higher than in dry holes between it and the field, but 100 feet or so lower than in Homer. Despite this, developments are being closely watched and several of the big companies have bought acreage around it, chiefly south and west. It caught the top of the chalk at 2,355 feet and is still in it at 2,540 feet. Dixie Oil Co.'s No. 1 Gilbert in Section 27-21-5, 12 miles east of Homer, is drilling lime at 5,014 feet and probably will be taken to 6,000 feet or deeper.

### New Wildcat in Richland District

Wilson and others' No. 1 Buie in Section 17-15-7, 5 miles southeast of the nearest production in the Richland gas fields is drilling and 10-inch casing has been set at 207 feet. It is on the south edge of a 2,500-acre block and is understood scheduled for 4,000 feet unless production is found beforehand. In Bienville, Warren & Gray have blocked 6,000 acres centering around Section 14-16-6, a mile northeast of the town of Bienville, on which they are to drill a 3,000-foot test. D. M. Lide and others have made location in the C SW, Section 11-14-11, Red River Parish, for a 2,700-foot test on the 2,000 acres they finished blocking a week or so ago. The block is in semi-wildcat territory north of the Crichton Pool in the Gusher Bend district of 1913 and west of a recently completed shallow pumper.

Carlton Drilling Co. did not test No. 1 Stevens in Section 12-11-16, Logansport district of DeSoto Parish, which stood 300 feet in fluid, 50 per cent water, but is drilling deeper. Shaw and others are trying to kill an artesian flow encountered at 340 feet in No. 1 Voss, Section 1-20-3, Lincoln Parish.

The Texas Company is reported to have taken over the 8,000-acre block centering around Section 9-21-2w, Union Parish, 6 miles east of Bernice, assembled by Miller and others, and assumed a drilling obligation for a 3,000-foot test following magnetometer and torsion balance surveys. Between this block and the proven area of the Monroe district various companies operating in that district are reported actively leasing everything they can get hold of on and around the Spencer Dome in the southeast corner of Township 21, Range 3, Ouachita Parish.

### Arkansas Test Work

In Arkansas interest is still concentrated on the two McDonald wells on the

(Continued on Page 126)

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# Producer in New Geophysical Dome

## Discovery Well at Point Barre, St. Landry Parish, La., Flowed Only One Day but Looks Like Field

By Neil Williams
*Staff Correspondent, Gulf Coast Fields*

HOUSTON, Tex., Feb. 25. — Finding of production on another geophysical dome, Point Barre, St. Landry Parish, Louisiana, was the main feature of Gulf Coast field news the past week and although the discovery well flowed only one day it is looked upon as opening another field, the second, counting the Old Hackberry Dome of Cameron Parish, in southern Louisiana this year.

The discovery well, The Texas Company's No. 1 Botney Bay, which flowed only a comparatively short time, has not been brought back in as this is written but when finally completed is expected to make a good well. At present the well is being deepened a few feet to a depth reached before part of the hole was lost previous to the test the early part of the week.

The well blew in last Monday while bailing an unscreened hole to test sand at a depth of 3,729-49 feet. It flowed initially at the rate of an estimated 500 bbls. of pipe line oil daily, increased its flow slightly, and then was shut in for storage. When opened the following day it failed to flow and the hole was started on down to the original depth of 3,763 feet where a better sand was had. Screen will be set and the sand at that depth tested.

The well made its flow through 8¼-inch casing and probably would have made a better showing had the casing been smaller. The casing was set at 3,705 feet. The oil tested 22 degrees (corrected gravity), which is comparable to the usual coastal crude.

This test is the first drilled on the dome and the production is the first in St. Landry Parish, which lies north of strictly coastal tier of parishes. The dome, which lies in Township 6 south and ranges 5 and 6 east, is the most northerly of coastal salt domes with one exception, Pine Prairie. The dome was discovered geophysically in 1926 by the Gulf Production Co. The tract on which the well is located has been owned by The Texas Company for many years and is almost surrounded by acreage held by the Gulf Production Co., which is expected to drill at least two offsets to the tract.

### Old Hackberry Dome

There were no new developments on the Old Hackberry Dome, which also was opened for production recently but the week was marked by the entry of several additional smaller independent companies and operators who will drill on tracts offsetting the two producers so far completed on the south flank. Rycade Oil Corp.'s No. 1 Gulf Land, the wildcat on the extreme west side of the dome which flowed by heads, indicating the presence of a second productive pool on the same dome, still is waiting on a standard rig to pump.

Among completions of the week was a 1,200 bbl. producer at Humble, two wells each at Raccoon Bend and DeWalt, a 1,000-bbl. well at Nash Dome, and another at Pierce Junction. A number of producers of smaller size and lesser importance were brought in at scattered coastal fields.

What is believed to be a new deep producing horizon on the north side of the Humble Field was found by the Sun Oil Co. in its No. 45 River Bed at a total depth of 4,580 feet. The well came in flowing an estimated 1,100 to 1,200 bbls. of pipe line oil daily with gravity of the oil reported at 33 degrees. It is flowing through a half-inch choke. Although the sand may be at a new horizon, the well is in the midst of production on the north edge.

At Raccoon Bend, Humble Oil & Refining Co. and Valley Oil Corp. jointly completed No. 2 Walton flowing 548 bbls. of 32.4 gravity oil from sand at 3,272 feet. The same operators' No. 2 Hardy flowed 350 bbls. daily of 21 gravity oil from sand at 3,256 feet.

### DeWalt Dome

The producing area of the DeWalt Dome of Fort Bend County also was materially expanded during the week by two wells. Humble Oil & Refining Co.'s No. 2 Deatherage, brought in late Friday flowing 500 bbls. daily at 3,766 feet, extended production 600 feet west, and No. 1 Nelson, a 250-bbl. well is approximately 1,700 feet to the southeast of production. Of considerable interest is the fact that this field, still lacking a month of being a year old, has extended its production from the discovery well 500 feet north, 1,400 feet west, 2,000 feet due east and approximately 3,000 feet to the southeast and daily average production now is around 7,500 bbls.

At Nash Dome, Rycade Oil Corp.'s No. 21 Wisdom turned out a good well, the first completion of any size in several months. It came in flowing an estimated 1,000 bbls. daily from sand at 3,271 feet. At Pierce Junction, Anderson & Plummer's No. 2 Whitehead, a former producer, came in flowing 1,200 bbls. daily of 25.3 gravity oil through a three-eighths-inch choke from sand at 3,809 feet. The well originally was completed last April flowing 2,500 bbls. at 4,881 feet.

Other completions during the week were Empire Gas & Fuel Co.'s No. 17 Barngrover, a former well deepened to 3,787 feet, which came in flowing 700 bbls. daily; Yount Lee Oil Co.'s No. 53 McFaddin, Spindletop, also a deepened well, flowing 300 bbls. at 5,223 feet; Navarro Oil Co.'s No. 4-A Robinson, Blue Ridge, deepened to 4,068 feet, flowing a settled production of 200 bbls.; The Texas Company's No. 107-A Latrielle, Jennings, pumping 30 bbls. net oil, 1,757 feet; Drysdale & Savoy's No. 3 Hill, Edgerly, pumping 25 bbls. net oil, 3,147 feet.

### Boling Dome Producer

In addition to these, Vacuum Oil Co.'s No. 1 Taylor, south flank of the Boling Dome, Wharton County, is flowing by heads an estimated 100 bbls. of fluid, some of which is oil, from sand at 2,920-42 feet, to which depth it was plugged back from 3,177 feet in salt. The well originally tested this sand last September and flowed for a short time, later being abandoned following a fire which destroyed the derrick and rig.

Of some interest is the return of the drill to the old Bryan Heights prospect in southern Brazoria County. Humphreys Corp., which recently acquired considerable acreage on the west and north sides of the dome started up its first test, No. 1 Bryan, in the C. Areola Survey. Bryan Heights, which has been lying dormant for years as far as oil prospecting is concerned, has been known as a prospect since 1880. Between the years 1901 and 1904 a number of shallow wells were drilled, several of which made small gassers. Nothing other than slight showings have been found in the way of oil production.

### Daily Average Production

Daily average production of the various coastal fields experienced only nominal fluctuations for the week ending February 23, the total being 142,087 bbls., a comparatively slight increase. Daily average production of Southwest Texas fields jumped 7,513 bbls. to a total of 58,687 bbls. with sharp increases reflected in the new Bruner district as well as in the original Luling district. Daily average production at Bruner was 24,630 bbls. as compared to 19,002 bbls. of the preceding week. Figures by fields are:

**GULF COAST**

**Texas**

| | |
|---|---|
| Allen Dome | 8 |
| Barbers Hill | 5,800 |
| Batson | 1,294 |
| Big Creek | 3,986 |
| Blue Ridge | 4,681 |
| Brenham | 150 |
| Boling | 1,915 |
| Clay Creek | 500 |
| Damon Mound | 650 |
| DeWalt | 7,318 |
| Fannette | 874 |
| Goose Creek | 6,733 |
| High Island | 1,754 |
| Hull | 9,971 |
| Humble | 4,717 |
| Jasper | 10 |
| Markham | 389 |
| Nash Dome | 1,000 |
| North Dayton | 490 |
| Orange | 2,817 |
| Orchard | 55 |
| Pierce Junction | 12,388 |
| Raccoon Bend | 1,848 |
| Saratoga | 944 |
| Spur Lake | 2,932 |
| South Liberty-South Dayton | 6,178 |
| Spindletop | 34,260 |
| West Columbia | 7,205 |
| Total | 120,867 |
| Total last week | 120,585 |
| Increase | 282 |

**South Louisiana**

| | |
|---|---|
| Anse La Butte | 41 |
| Bayou Bouillon | 450 |
| Edgerly | 814 |
| Evangeline | 765 |
| Hackberry | 6,403 |
| Lockport | 4,569 |
| Sorrento | 559 |
| Starks | 748 |
| Sulphur | 2,000 |
| Sweet Lake | 500 |
| Vinton | 4,341 |
| Welsh | 30 |
| Total | 21,220 |
| Total last week | 20,585 |
| Increase | 635 |
| Total Gulf Coast | 142,087 |
| Total last week | 141,170 |
| Increase | 917 |

**Southwest Texas**

| | |
|---|---|
| Dale | 545 |
| Bruner | 24,630 |
| Goure Lake | 90 |
| Kingsville | 290 |
| Larremore | 225 |
| Luling* | 13,432 |
| Lytton Springs | 1,087 |
| McMullen County | 63 |
| Medina County | 25 |
| Mirando | 12,659 |
| Refugio | 1,527 |
| Yoast | 2,219 |
| Somerset | 1,895 |
| Total | 58,687 |
| Total last week | 51,174 |
| Difference | 7,513 |

*Includes: Caldwell County, 9,097 bbls.; Guadalupe County, 4,335 bbls.

### Barbers Hill—Chambers County

Humphreys Corp.'s No. 6-B Kirby, southeast flank, tested salt water in a deep sand at 5,761-5,808 feet. It will be plugged to a shallower sand. This company's No. 1 Cornelia Barber, which tested salt water earlier in the week at 4,996 feet, has pulled screen and is starting deeper. Bennett Petroleum Co.'s No. 2 Kirby is drilling shale at 5,795 feet. No. 1 Means is drilling shale at 3,985 feet. Rexall Petroleum Co.'s No. 1 Cockburn is drilling in a sand showing oil at 2,066 feet. Joe Bashara's No. 1 Tarbutton has repaired derrick and is rigged up again and is starting to pull stuck drill stem. The derrick was pulled in several weeks ago in an attempt to pull the drill stem. Bottom of the hole is in sandy shale below 4,746 feet.

On the southwest flank of the dome, Yount Lee Oil Co.'s discovery well, No. 1 Chambers, continues to hold up better than 3,850 bbls. daily. This company's No. 2 Chambers is drilling hard shale at 2,697 feet. No. 3 Chambers is drilling in hard, sandy lime at 2,031 feet. Sun Oil Co.'s No. 1 Chambers also has started drilling and is in gumbo at 6[illegible] feet. Gulf Production Co.'s No. 1 Fisher fee is down 901 feet where 10-inch casing has been set.

Yount Lee Oil Co. has made location and rigged up for No. 4 Richardson following the abandonment of No. 3 with drill stem stuck in the hole. Bennett Petroleum Co.'s No. 1 Barber, north side of the dome, is drilling gumbo at [illegible] feet. Cedar Bayou Oil Co.'s No. 1 Fitzgerald is in a cap rock at 870 feet looking returns.

### Raccoon Bend—Austin County

Raccoon Bend, which added two more small wells during the week in Humble Oil & Refining Co. and Valley Oil Corp.'s No. 2 Walton and No. 2 Hardy, was expecting a third, No. 1-C (A) Grawunder, with the running of 2½-inch tubing into the hole. The test is in the oil sand at a total depth of 3,388 feet. These operators' No. 3 Urban is drilling shale and lime at 1,653 feet. No. 1-D Ernest Grawunder is ready to spud in. No. 1 J. W. Wilson is drilling shale and lime at 1,715 feet. No. 3 E. B. Wilson is drilling sand at 262 feet. No. 2 Dietrich is drilling sticky shale at 908 feet. No. 1 Sherrill is in shale and lime at 1,370 feet. No. 2 Kearns is drilling deeper after drilling out plug cemented at 1,147 feet. No. 1 Ueckert is reaming with the bottom of the hole at 999 feet in shale and lime. No. 3 Roy Thompson is down 212 feet but is reaming hole to 18½ inches. No. 2 Saunders is standing a derrick.

### DeWalt—Fort Bend County

Humble Oil & Refining Co.'s No. 3 Sugarland is drilling shale and lime at 2,310 feet. With the completion of No. 2 Nelson as a small well, location has been made for No. 3 Nelson. It is being rigged up. No. 2 Camp is drilling sandy shale at 3,324 feet. No. 2 Brazos Farms is drilling gumbo and lime at 1,485 feet. No. 3 Brazos is down 1,311 feet but losing returns. Nos. 4 and 5 Brazos Farms are standing as derricks. No. 1-A Bankers Mortgage is drilling hard, sandy lime at 699 feet.

### Humble—Harris County

South Texas Petroleum Co.'s No. 3 Morris, south edge deep test, is drilling gumbo and lime at 3,431 feet. The Texas Company's No. 39 Stevenson, a north offset to the South Texas Petroleum Co.'s Morris tract, is drilling gumbo below 574 feet with 12½-inch casing set at that depth.

The Texas Company's No. 22 House on the north side is standing at 4,203 feet in sandy shale waiting on drill pipe. This company's No. 14 Koehler is in sand and shale showing oil at 3,256 feet.

### Boling—Fort Bend and Wharton

Sun Oil Co.'s No. 4 E. C. Farmer, east side wildcat, drilled plug at 3,744 feet and Saturday was reaming to set screen to test at a total depth of 3,802 feet. This company's No. 2 Rogers is drilling shale at 3,988 feet. A derrick is being built for No. 5 Thomas. The Texas Company's No. 2 E. C. Farmer is drilling sand and boulders at 1,425 feet. This company's No. 1-A Dipple on the far northeast is drilling hard sand at 3,590 feet. No. 1-B Dipple is drilling hard lime at 3,197 feet. Gulf Production Co.'s No. 5 Bay is drilling sand and shale at 4,272 feet. Scott & Peck's No. 1 Armstrong is drilling shale at 3,974 feet. South Texas Petroleum Co.'s No. 1 Fotjek-Hyde has pulled screen after testing salt water at 3,925 feet and is drilling deeper.

On the south flank of the dome, Vacuum Oil Co.'s No. 1 Taylor, plugged to a sand at 2,920-42 feet, was flowing by heads Saturday at the rate of an esti-

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# Work Begun on Lea County Pipe Line

## New Location in Jal District. Freak Showing at Lyons, Colo. Speculation Active in Vineland Area Near Pueblo

By Tolbert R. Ingram
*Staff Correspondent, Rocky Mountain Area*

DENVER, Colo., Feb. 25.—Pipe line construction into southeastern New Mexico from Winkler County, Texas, is expected to stimulate development in Lea County. The Texas Pipe Line Co. has started work on one line and the Humble Oil & Refining Co. is reported acquiring right of way for another. A new location in the Jal district was made by the Pueblo Oil Co. in Section 29-25-37, and the Bordages test in the Hobbs area is resuming after being idle several months. The Empire Gas & Fuel Co.'s No. 1-C State in the Eunice district has a hole full of sulphur water at 3,990 feet.

A small showing of very light oil in a freak formation at 65 feet in the town of Lyons, Colo., attracted considerable attention, the oil being of unusual grade as well as being found under unusual conditions at a shallow depth. Speculation in leases rather than the drilling of wells appears to afford the principal activity in the Vineland district near Pueblo, though several wells are scheduled to start shortly. One completion, a 100-bbl. well, was reported in the Canon City Pool by the Continental Oil Co., and one well was spudded.

The Mountain Fuel Supply Co., recently organized by the Ohio Oil Co. interests in connection with projected gas line to Salt Lake City, will operate the Baxter Basin and Hiawatha Dome properties. The Ohio Oil Co. completed a 200-bbl. well in the Oregon Basin Field, and its wildcat on the Shoshone anticline in the same county is pumping 45 bbls.

A small gas line project from the Ashley Creek Dome in Uintah County to supply the town of Vernal, 8 miles away, is getting under way in Utah.

### NEW MEXICO

Pipe line construction into southeastern Lea County, New Mexico, from Winkler County, Texas, is expected to give some impetus to the development in that area where the few wells showing oil have been shut in. The Texas Pipe Line Co., subsidiary of The Texas Company, is the first to get under way, the reports being that construction has commenced on a 25-mile extension northward from its 6-inch line which has its present terminus at Wink. The Humble Oil & Refining Co., which has an 8-inch line running north from the Hendricks Pool to the Leck Pool, 5 miles south of the Lea County line, is reported to have purchased right of way and to be preparing to build into the Jal district. It will have less than half of the distance to go compared to The Texas Company's extension. The principal well in Lea County waiting for a pipe line outlet is the Skelly Oil Co.'s No. 1 Joyner, NE cor. SE, Section 26-25-36, in the Jal district, which is bottomed at 3,331 feet and is now pinched down to 1 bbl. per hour waiting for the pipe line. While this well has not been opened for a production test, due to storage all being full, it is estimated good for 1,000 to 1,200 bbls. The Texas Production Co. has its No. 1 Rhoades, in Section 22-26-37, which was completed in December, 1927, with an initial production of 120 bbls. along with 22,000,000 feet of gas and which has since remained shut in. The same company has another producer in the SE cor. NE, Section 6-26-37, in its No. 1 Shepherd, which was spraying 50 to 75 bbls. with 4,000,000 feet of gas at last reports, but which is not yet a completion due to a fishing job. The decision of the pipe line companies to go ahead with construction indicates their confidence in Lea County.

### New Location in Jal

A new location in the Jal district was announced this week in the Pueblo Oil Co.'s No. 1 Crosby, in the SW SW, Section 29-25-37, the footage being 1,890 feet from the east line and 660 feet from the south line of the southwest quarter. It is about midway between the Marland's No. 1 Sholes and the Texas Production Co.'s No. 1 Cagle, both gas wells. A water well is being drilled preliminary to starting the test. Cecil Bordages' No. 1 Jennie Hughes, C S half, Section 27-19-38, in the Hobbs district, which has been idle at 4,012 feet since last October, is cleaning out preparatory to resuming. The 8¼-inch string is parted at 2,460 feet. The Empire Gas & Fuel Co.'s No. 1-C State, SW cor., Section 12-21-34, in the Eunice district, is bottomed at 3,990 feet in white lime with a hole full of sulphur water. The white lime, it is believed, was topped at 3,980 feet. The Maljamar Oil & Gas Co.'s No. 2 Pearsall, NE NE, Section 33-17-32, in the Caprock district, is drilling at 4,338 feet in lime with 3,000 feet of salt water in the hole. The Texas & Pacific Coal & Oil Co.'s No. 1 State, SE cor. SW, Section 22-23-36, is bottomed at 2,951 feet in lime where it set and cemented the 9⅝-inch. The base of the salt was found at 2,923 feet and the top of the lime at 2,940 feet. The elevation is 3,407 feet. The Midwest Refining Co.'s No. 13 Farnsworth, NE NE, Section 13-26-36, in the Jal district, is drilling at 1,835 feet in salt. The salt was topped at 1,160 feet. The location is sometimes confused with No. 19 Farnsworth, SW SW, Section 12-26-37, which is fishing at 3,887 feet. The two wells are not on the same lease, and No. 13 is 6 miles west of No. 19. A. D. Morton and others' No. 1, C NW, Section 29-11-38, is drilling at 1,500 feet in the red beds, and Henderson, Dexter & Blair's No. 1 McDonald & Jewett, SE cor., Section 18-20-34, is bottomed at 1,505 feet and straightreaming the 10-inch at 950 feet. The Gypsy Oil Co.'s No. 1 Mattern, SW cor. SE, Section 24-21-36, is drilling at 930 feet, and the Vacuum Oil Co.'s No. 1 State, CWL, Section 13-17-34, is ready to spud. The Prairie Oil & Gas Co.'s No. 1 Rhoades & Slattery, NE cor., Section 22-22-34, is a temporarily abandoned location, and Cranfill & Reynolds' No. 1 Wilson, NW NE, Section 23-25-36, is drilling at 630 feet in the red beds.

### Eddy County

In Eddy County, the Pecos Valley Gas Co.'s No. 1 Vandergriff, SW cor. NE, Section 6-17-28, in the Artesia district, has been abandoned at 1,570 feet in salt. This was an old well deepened from 1,115 feet. It was bottomed in salt when drilling was discontinued. R. D. Compton's No. 1-C Vandergriff, NE SE, Section 1-17-27, in the Artesia Pool, is shut down at 1,900 feet, and Leonard & Levers' No. 1 Haggerty, NE NW, Section 18-16-30, is drilling by tools at a total depth of 2,140 feet. In the Twin Mounds district, southeast of the Artesia Pool, George F. Getty, Inc.'s No. 4 Dooley, C E half SW NW, Section 23-20-29, is rigging up and its No. 3 Bates & Martin, SE cor. SW, Section 31-20-29, has completed rig. Sullivan & Randall's No. 1 State, NW cor. SW, Section 19-20-30, in the same area, is bottomed at 503 feet in sand and pulling casing due to a leak.

In Roosevelt County, Sloan & Smith's No. 1 Lovern, C SE, Section 4-3s-35, in the Portales district, commenced spudding on February 11 and shut down at 60 feet. This is on a block held by the Amerada Petroleum Corp. Contract calls for a 4,500-foot hole.

In De Baca County, the Transcontinental-California Oil Co.'s No. 1 McWhorter, SW NW, Section 6-3s-22, is shut down at 3,125 feet in red sand.

In Chaves County, L. B. Tannehill's No. 1 Butler, SE cor., Section 15-12-24, is drilling at 555 feet in lime, and Snowden & McSweeney's No. 1 Merchant, NW NW, Section 27-15-23, is drilling at 3,660 feet in lime. This well was delayed last week by a fire which destroyed the engine and belt house. R. T. Neal and others' No. 1 Russell, NW NW, Section 21-14-25, Hagerman Dome, is shut down at 1,232 feet, and same firm's No. 1 Jones, C Section 27-14-23, is rigging up. The Transcontinental-California Oil Co.'s No. 1 Robbins, SE cor., Section 1-14-28, commenced spudding January 7, and is drilling at 155 feet in sand.

In San Juan County, the Continental Oil Co.'s No. 17 Santa Fe, Section 2-29-19, Rattlesnake Dome, is drilling at 6,495 feet, and the Childers Drilling & Producing Co.'s No. 2, Section 24-31-16, Westwater Dome, is delayed at 2,075 feet with the liner in the hole.

### COLORADO

A small freakish showing of oil encountered at a depth of 65 feet in a well being drilled in the town of Lyons, in northern Boulder County, Colorado, attracted considerable attention and may prove of more significance than first indicated. The well was started with a small water well outfit by C. E. Johnson, a Denver attorney who has been interested in wildcatting for several years, and Dr. W. S. Howard, a Denver physician, their intentions being to test the Fountain sand of Pennsylvanian age at 200 to 250 feet. The showing was found in what is known as the Lyons sandstone, a hard ledge-making sandstone 100 feet thick, light pink in color, and generally considered to be of Permian age and referred to as part of the "red beds." The stone is exposed at Lyons and is used extensively for building purposes in Denvery and the layers are so regular in thickness that it makes excellent flagstones of large size. At the edge of Lyons the inclined layers lie at an angle of about 35 degrees. The younger formations which produced oil in the old Boulder Field to the south and are productive at Wellington and Fort Collins, to the northeast, are entirely absent in the immediate vicinity.

The Johnson and Howard well is about two blocks north of Main Street in the town of Lyons on the McFadden property, approximately in the C Section 18-3n-70. After going through about 12 feet of surface wash, the drill entered the sandstone which is hard and considerably crystallized. After drilling about 25 feet of the formation the rock was more broken and coarser and at 65 feet drilling was stopped on the afternoon of February 15. The next morning there was a thin coating of oil on the seepage water in the hole. That night about half a barrel of oil was bailed from the hole. The next morning approximately 2 bbls. was bailed. The oil is light olive in color and has the odor of a distillate. A sample strained through some cotton yielded what appeared to be paraffin. Samples are now being analyzed by several parties including the Midwest Refin-

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# HOME OIL CO. WELL MAKES 600 BBLS. IN SOUTH END, TURNER VALLEY

By Victor Lauriston
*Staff Correspondent, Canadian Fields*

CHATHAM, Ont., Feb. 23.—Home Oil Co.'s No. 1 producer, LSD 10, Section 20-19-2w5, in the south end of the Turner Valley Field, looks like the biggest development in the history of the field. Operating with one separator the crude naphtha recovery from the deep lime reached a peak around 600 bbls. or better, and it is expected to make about 750 bbls. with the second separator, which has now been attached. The test got the top of the lime at 5,106 feet and blew into production at 5,280 feet, exactly a mile deep. The wet gas production started around 17,000,000 feet a day, approximately the same as Royalite's No. 4 gusher, but rapidly increased to 22,000,000 feet which was the last measurement reported. Production which the first day amounted to 458 bbls. of crude naphtha and 17 bbls. of light crude had by the fourth day reached 577 bbls. of naphtha and 17 bbls. of light crude. The aggregate for the four days was 2,100 bbls. of crude naphtha and 79 bbls. of light crude, averaging 525 bbls. and 20 bbls. respectively. Since then with the second separator installed there has been a considerable increase in crude naphtha recovery, and the well is definitely the largest producer in the Turner Valley Field. The light crude comes from the Fernie shale horizon, some 200 feet above the lime, and is taken off between the 6-inch and 8-inch casing. Actual production of crude naphtha was probably greater than the figures indicate, as the recoveries were made in open tanks with heavy evaporation losses; and some time was lost owing to broken connections. In addition to the second separator, two 500-bbl. pressure tanks have been set up.

### New Feature

Home Oil Co.'s No. 1 was the first test to get light crude production in the south end of the field, tapping the Home sand in the Fernie shales. Production was taken from this sand for about a year, and then it was decided to drill to the deep lime. The test was carried down with cable tools to a depth 30 feet in the lime, and finished with the diamond drill. In finishing the test a new feature was introduced to combat freezing which has interfered with other deep lime producers. A funnel-shaped hole was drilled in the lime, 6-inch casing being carried in 30 feet, and 4-inch for the remaining 142 feet. As a result, rock fragments which are forced up the 142 feet then find an enlarged hole, which will, it is expected, help carry them off and prevent bridging and freezing.

Drilling and production are being handled by Imperial Oil, Ltd., under an arrangement made with the Home Oil Co. shortly after the first light crude production was encountered. The Home Oil Co. was financed largely by Vancouver, British Coulmbia, men and most of the stock is still held there. Officers are, president, W. C. Shelly, minister of finance in the British Columbia provincial government; secretary, G. S. Harrison; managing director, Major Lowry; directors, Col. Nelson Spencer, Gen. Jack

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# First Peak in Santa Fe Springs Field

## Deep Drilling May Give Pool Two More Production Highs This Year. Other Important Pools in the Making

By L. P. Stockman
*Staff Correspondent, California Fields*

LOS ANGELES, Calif., Feb. 23.—Santa Fe Springs is believed to have established its initial 1929 peak during the past week, and while there will probably be no substantial decline for another few weeks recent developments tend to indicate that both the Buckbee and Nordstrum horizons have already yielded their highest flush production and are susceptible to an early drop.

The Santa Fe Springs Field is expected to establish two or more production peaks during the current year and it is quite probable that the output of this field will continue at a relatively high rate although production curves may show depressions of considerable extent between each of the several peaks expected to be established during the current year. The daily output of this field is expected to register a substantial decline within the next 30 days but deeper drilling will cause production curves to again swing upward the latter part of March.

The next peak expected to be established by Santa Fe Springs will probably occur during April or May, although this high may be retarded because of mechanical limitations. The potentiality of the new O'Connell zone recently discovered below the Buckbee horizon in George F. Getty's No. 19 O'Connell has not yet been ascertained as this project failed to effect a satisfactory water shut off and will consequently ultimately require corrective work. This exploratory well, which came in under a natural flow doing 3,350 bbls. of fluid, 50 per cent water, from a depth of 6,610 feet, is still on production several days after completion as the water can be bled out quite readily. The origin of this water has not yet been ascertained and the importance of the new O'Connell zone is therefore still in doubt. A total of 250 feet of oil sand was opened up in this test and although the formation was closely watched and observed by corè samples a water zone may exist somewhere within the 250 feet of formation opened up. It is quite likely, however, that the water in this well is due either to bottom water or the failure to shut off the water sand, which is located between the O'Connell zone and the immediate overlying Buckbee horizon.

### Deeper Production Possibilities

The economic importance of the O'Connell horizon at Santa Fe Springs is expected to have a direct bearing on State production during the coming year and especially during the next few months. If this zone proves highly productive and warrants development, as many anticipate, it will result in the establishment of a second high peak at Santa Fe Springs some time within the next three or four months. The second peak, expected to result from development of the O'Connell zone, will probably be followed by another high later in the year due to still deeper drilling. A check indicates the probable existence of approximately 2,500 feet of potentially productive formation below the Buckbee horizon at Santa Fe Springs. This is the Miocene formation which was picked up in the Long Beach Field at a depth of around 5,500 feet and extended down to below the 8,000-foot level. The age of the O'Connell zone at Santa Fe Springs has not yet been determined but it may ultimately be classified as Miocene. The Nordstrum and Buckbee horizons have definitely been classified as of Pliocene age with the Miocene contact expected at approximately the depth at which the O'Connell zone was encountered.

Assuming that the recently discovered O'Connell horizon is of Miocene age, there still remains approximately 2,000 feet of untested Miocene rocks which should ultimately prove highly prolific. This is especially important in view of the fact that the Richfield Oil Co. cored 77 feet of oil sand between 7,110-87 feet in its No. 2 Elliott, located in the western part of the field and rather well down on the north flank. The oil sand in this well and similar proven favorable showings in No. 2 Clarke of the Associated Oil Co. tend to indicate the existence of still further productive horizons below the O'Connell zone on top of the structure. The situation at Santa Fe Springs is changing from day to day and it might not be amiss therefore to call attention to the fact that although the current production of this field will hit the toboggan within the next few weeks the industry must not be misled by this temporary condition as the exploitation of still deeper productive zones will cause production curves to again swing upward at a later date. Five oil zones and one gas horizon have been encountered at Santa Fe Springs since completion of the Union's discovery, No. 1 Bell, which was finished in 1923. The gas horizon is a dry gas zone which was encountered around the 2,000-foot level. The oil horizons from top to bottom are the Fox, Bell, Meyer, Nordstrum and Buckbee zones of Pliocene age. The O'Connell and Elliott zones of probable Miocene age have not yet been tested out, although the initial completion in the former is being allowed to produce, notwithstanding it is cutting 50 per cent water.

### Several Important Fields

The normal drop in production at Santa Fe Springs between the several peaks expected to occur during the current year will naturally be adversely reflected in State production and will consequently cause temporary downward fluctuations from time to time. This field will not monopolize the spotlight exclusively, however, as several other districts are also expected to become important factors in California's output during 1929. Kettleman Hills will not enter the picture until late in the year but Lawndale, Elwood Terrace, Seal Beach and several other fields are also expected to show increased production within the next few months. Long Beach is the only field in the State at the present time which can be expected to register any substantial decline. The output of this field is definitely headed for a lower level but this drop will only offset part of the additional anticipated production expected to result from extensive development work in other areas. Ventura Avenue and most of the other settled fields of the State will continue at about their present rate, although Ventura Avenue may show a slight up trend later in the year.

### New Pools Possible

It is quite evident that there will be a considerable overproduction during 1929 and this may be further increased by the discovery of new fields in the near future. The remarkable stability of production and phenomenal success achieved by the Barnsdall and Rio Grande companies at Elwood Terrace has brought the coastal region into the limelight and it looks like almost a foregone conclusion that at least one new field will be opened up in Santa Barbara County in the near future. The Continental Oil Co.'s No. 1 Franklin, a wildcat at Carpenteria, appears almost certain of opening up a new field within the next few weeks as the last core showed 12 feet of saturated oil sand. This wildcat has shown a tremendous gas pressure and it has been necessary to fortify the rotary drilling mud with hematite in order to prevent a premature blowout. It is down 3,990 feet at the present time with a production test scheduled for the immediate future, provided, of course, that the crew succeeds in landing the oil string without precipitating a blowout. High pressure fittings and a gas trap have been installed and the erection of steel tankage is expected to be completed within the next few days. This wildcat has all the earmarks of production and those who have been on the ground will be very much disappointed if the Continental does not open up a new field. The Continental has decided to drill another test immediately and material is being placed on ground for No. 1 Baillard which will be located just north of No. 1 Franklin.

It might be mentioned in passing that the formation at Carpenteria is similar to that which has proven so highly productive at Elwood Terrace, located a little over 20 miles to the west. The Santa

### IMPORTANT NORTHERN CALIFORNIA WILDCATS

| Company, well and location— | S-T-R | Depth | Status |
|---|---|---|---|
| Standard, No. 5-6 Saticoy, Ventura Co. | 10- 2-22 | 4,660 | cemented |
| California Western Oil Co., No. 1 Elkins, Ventura Co. | 28- 4-19 | 2,951 | suspended |
| Exline, Emma., No. 1 Saticoy, Ventura Co. | 33- 3-21 | 2,412 | suspended |
| American Oil Co., No. 1 Camarillo, Ventura Co. | 33- 2-20 | 787 | hd. sd. drilling |
| Star Pet. Co., No. 2 Canet, Ventura Co. | 13- 3-23 | 6,775 | suspended |
| Bolsa Chica, No. 1 Temescal, Ventura Co. | 4- 4-18 | 708 | suspended |
| The Texas Company, No. 1 Hueneme, Ventura Co. | Lot 82 | Mtl. | building rig |
| The Texas Company, No. 1 Wiley Canyon, Ventura Co. | 2- 3-19 | ..... | location |
| Miley, E. J., No. 2 Casitas, Ventura Co. | 12- 3-21 | 785 | suspended |
| Shell, No. 1 Marr, Simi, Ventura Co. | 31- 3-17 | 1,845 | hd. sd. drilling |
| Continental, No. 1 Sulphur Mountain, Ventura Co. | 21- 4-22 | 3,754 | br. sh. drilling |
| Continental, No. 2 Sulphur Mountain, Ventura Co. | 22- 4-22 | 5,150 | br. sh. drilling |
| Milham Explto., No. 1-A Buttonwillow, Kern Co. | 8-28-23 | 4,662 | gas well |
| Milham Explto., No. 2 Buttonwillow, Kern Co. | 8-28-23 | 2,730 | gas well |
| Milham Explto., No. 3 Buttonwillow, Kern Co. | 8-28-23 | 2,694 | gas well |
| Milham Explto., No. 4 Buttonwillow, Kern Co. | 6-28-23 | 2,670 | gas well |
| Milham Explto., No. 5 Buttonwillow, Kern Co. | 5-28-23 | 2,500 | gas well |
| Milham Explto., No. 6 Buttonwillow, Kern Co. | 8-28-23 | 2,676 | gas well |
| Milham Explto., No. 7 Buttonwillow, Kern Co. | 4-28-23 | 2,720 | suspended |
| Milham Explto., No. 8-A Buttonwillow, Kern Co. | 8-28-23 | 1,171 | sd. drilling |
| Doheny-Stone, No. 1 Salisbury, Kern Co. | 7-29-24 | 4,750 | fishing |
| Southern Calif. Gas Co., No. 1 Buttonwillow, Kern Co. | 4-28-23 | 4,272 | suspended |
| Southern Calif. Gas Co., No. 2 Buttonwillow, Kern Co. | 27-28-23 | Rig | suspended |
| Lincoln Drlg. Co., No. 1 Buttonwillow, Kern Co. | 6-28-23 | 190 | suspended |
| Richfield Oil Co., No. 1 Semitropic, Kern Co. | 21-26-22 | 4,760 | redrilling |
| Richfield Oil Co., No. 2 Semitropic, Kern Co. | 36-27-23 | 1,301 | sd. drilling |
| Pacific Eastern, No. 1 Union Ave., Kern Co. | 6-30-28 | 5,649 | suspended |
| Pacific Eastern, No. 2 Union Ave., Kern Co. | 6-30-28 | 4,500 | suspended |
| Pacific Eastern, No. 3 Union Ave., Kern Co. | 6-30-28 | 4,443 | gas, shut in |
| Pacific Eastern, No. 5 Union Ave., Kern Co. | 5-30-28 | 4,991 | suspended |
| Stabler, W. W., No. 1 Comanche Point, Kern Co. | 23-32-29 | 3,409 | fishing |
| Symark Oil Co., No. 1 Edison, Kern Co. | 24-29-29 | 1,211 | gr. sd. drilling |
| Midway Northern, No. 1 Edison, Kern Co. | 29-29-30 | 3,841 | cleaning out |
| Delzel, S. A., No. 1 Delano, Kern Co. | 4-26-27 | 3,997 | gr. sd. drilling |
| Elmer Oil Co., No. 1 Shafter, Kern Co. | 8-28-25 | 5,600 | gr. sd. drilling |
| Standard, No. 1 San Emidio, Kern Co. | 35-11-22 | 3,793 | rig burned |
| Union, No. 1 San Emidio, Kern Co. | 5-10-21 | 2,335 | abandoned |
| Union, No. 2 San Emidio, Kern Co. | 5-10-21 | Mtl. | building rig |
| Currency Pet. Co., No. 1 Vineyard, Fresno Co. | 28-21-14 | 1,280 | gr. sh. drilling |
| Hornaday & Huggins, No. 1 Kerman, Fresno Co. | 32-14-18 | 718 | sd. drilling |
| K. C. L. Oil Co., No. 1 Joaquin Ridge, Fresno Co. | 7-19-15 | Mtl. | building rig |
| Union, No. 1 Huasna, San Luis Obispo Co. | 34-32-15 | 3,232 | redrilling |
| Union, No. 1 North Huasna, San Luis Obispo Co. | 12-32-14 | 2,880 | reaming |
| Panorama Oil Co., Well No. 1, San Luis Obispo Co. | 7-31-21 | 3,600 | pipe bad |
| Dollar Oil Co., No. 1 Vishnu, San Luis Obispo Co. | 18-32-22 | 1,788 | cleaning out |
| Sequoia Oil Co., Well No. 2, San Mateo Co. | 15- 7- 5 | 1,605 | suspended |
| Sunset Pacific, No. 1 Saratoga, San Mateo Co. | 13- 7- 4 | Rig | suspended |
| Calhon Oil Co., No. 1 Livermore, Alameda Co. | 9- 3- 3 | 1,544 | cleaning out |
| Foster & Hammill, Well No. 1, Alameda Co. | 21- 3- 3 | 465 | suspended |
| R. Y. Hanlyn, Well No. 1, Alameda Co. | 3- 5- 2 | 360 | suspended |
| Shell, No. 1 Guadalupe, Santa Barbara Co. | 36-10-35 | 2,025 | hd. sd. drilling |
| Shell, No. 2 Goleta, Santa Barbara Co. | 36- 5-31 | 1,550 | sd. sh. drilling |
| Standard, No. 1 Point Conception, Santa Barbara Co. | X- 5-34 | 560 | sd. sh. drilling |
| Standard, No. 1 Tortuga Canyon, Santa Barbara Co. | ..... | 1,481 | sd. sh. drilling |
| Standard, No. 1 Point Arguello, Santa Barbara Co. | X- 7-35 | ..... | location |
| Olympic Oil & Refg. Co., No. 1 Mesa, Santa Barbara Co. | X- 7-28 | Mtl. | building rig |
| Bankline Oil Co., No. 1 Mesa, Santa Barbara Co. | X- 4-27 | 2,581 | br. sd. drilling |
| Exeter Oil Co., No. 1 Mesa, Santa Barbara Co. | X- 4-27 | Mtl. | building rig |
| Sextette Oil Co., No. 1 Goleta, Santa Barbara Co. | 10- 4-28 | Mtl. | building rig |
| System Oil Co., No. 1 Orcutt, Santa Barbara Co. | 36-10-34 | Rig | rigging up |
| Pet. Securities, No. 1 Santa Ynez, Santa Barbara Co. | ..... | ..... | location |
| Tepesquit Oil Co., Well No. 1, Santa Barbara Co. | 3- 9-32 | 2,710 | suspended |
| Becker, Geo. F., No. 1 Summerland, Santa Barbara Co. | 33- 4-25 | 3,090 | suspended |
| Channel Oil Co., Well No. 1, Santa Barbara Co. | 29- 4-27 | 6,304 | cleaning out |
| Channel Oil Co., No. 1 Fellowship, Santa Barbara Co. | 29- 4-27 | Mtl. | building rig |
| Continental, No. 1 Carpenteria, Santa Barbara Co. | 33- 4-25 | 3,990 | looks good |
| Elwood Consd., No. 1 Goleta, Santa Barbara Co. | 8- 4-29 | 3,310 | set pipe |
| Colusa Oil Co., Well No. 1, Colusa Co. | 31-15- 4 | 380 | redrilling |
| Nuna Oil Co., Well No. 1, Colusa Co. | 19-15- 5 | 400 | suspended |
| Superior Oil Co., No. 1 Calivada, Colusa Co. | 31-15- 4 | 1,011 | suspended |
| North Counties Oil Co., Well No. 2, Humboldt Co. | 36- 2- 1 | 2,205 | suspended |
| Humboldt Oil Co., Well No. 1, Humboldt Co. | 6- 2- 1 | 3,041 | redrilling |
| Kuhns, H. L., Well No. 1, Merced Co. | 9-12- 9 | 1,570 | suspended |
| Angiola Oil Co., No. 1 Angiola, Tulare Co. | 27-22-23 | 4,440 | hd. sd. drilling |
| Shell, No. 1 Dudley, Monterey Co. | 15-22- 9 | 516 | hd. sd. drilling |
| Brown Oil Co., No. 1 Parkfield, Monterey Co. | ..... | ..... | grading |
| Dudley Ridge Synd., No. 1 Tulare, Kings Co. | 12-23-19 | 910 | sd. sh. drilling |

### IMPORTANT SOUTHERN CALIFORNIA WILDCATS

| | | | |
|---|---|---|---|
| Ring Pet. Co., No. 1 Inglewood, Los Angeles Co. | 28- 2-14 | 2,501 | hd. sd. drilling |
| Petroleum Securities, No. 1 Hermosa, Los Angeles Co. | 32- 3-14 | 3,077 | sd. sh. drilling |
| West. Drlg. & Prod. Co., No. 1 Manhattan, Los Angeles Co. | 30- 3-14 | 1,574 | sd. sh. drilling |
| Mont. Park Oil Co., No. 1 Browning, Monterey Park | 26- 1-12 | 4,420 | suspended |
| Mont. Park Pet. Co., No. 1 Jepson, Monterey Park | 25- 1-12 | 3,937 | suspended |
| Rio Grande, No. 1 Downey, Los Angeles Co. | 34- 2-12 | 3,921 | hd. sd. drilling |
| Jackson, R. W., No. 1 Whittier, Los Angeles Co. | 19- 2-11 | Rig | rigging up |
| Burlington Pet. Co., No. 1 Compton, Los Angeles Co. | 17- 3-13 | 430 | sd. drilling |
| Richfield, No. 1 Maywood, Los Angeles Co. | 13- 2-13 | 4,700 | sd. sh. drilling |
| Easton & Smith, No. 1 Calabasas, Los Angeles Co. | 19- 1-17 | 2,982 | suspended |
| Russell Oil Co., No. 2 Joughin, Los Angeles Co. | 25- 3-17 | 1,522 | hd. sd. drilling |
| Pomona Oil Co., Well No. 1, Los Angeles Co. | 32- 1- 8 | 1,090 | hd. sd. drilling |
| Anchor Oil Co., No. 1 Puente, Los Angeles Co. | 19- 2-10 | 4,820 | suspended |
| Richfield Oil Co., No. 1 Puente, Los Angeles Co. | 9- 2-10 | 3,434 | recemented |
| Southwestern Dev. Co., No. 1 Richfield, Los Angeles Co. | 21- 2- 9 | Rig | rigging up |
| Calif. Eastern, No. 1 Wickham, Los Angeles Co. | 32- 5-17 | 3,160 | plug. back |
| Coastline Oil Co., No. 1 Devil Canyon, Los Angeles Co. | 21- 5-17 | 121 | sd. drilling |
| The Texas Company, No. 1 Anaheim, Orange Co. | 35- 4-10 | 3,906 | hd. sd. drilling |
| Bastanchury Ranch Co., Well No. 1, Orange Co. | 21- 3-10 | Rig | suspended |
| Mesa Pet., No. 1 Newport, Orange Co. | 21- 6-10 | 3,525 | br. sh. drilling |
| West. Drlg. & Prod. Co., No. 1 Newport, Orange Co. | 18- 6-10 | 4,461 | cleaning out |
| West. Drlg. & Prod. Co., No. 2 Newport, Orange Co. | 18- 6-10 | Rig | rigging up |
| Hall Pet. Co., No. 1 Murrietta, Riverside Co. | 23- 7- 3 | 975 | fishing |
| Hemet Pet. Co., No. 1 Ward, Riverside Co. | 9- 5- 1 | 3,232 | set pipe |
| Davenport O. & G. Co., No. 1 San Marcos, San Diego Co. | 30-12- 4 | 892 | suspended |
| Turner, S. S., No. 1 Escondido, San Diego Co. | 25-12- 2 | 1,685 | hd. br. lime |

# AMONG CHAMPIONS

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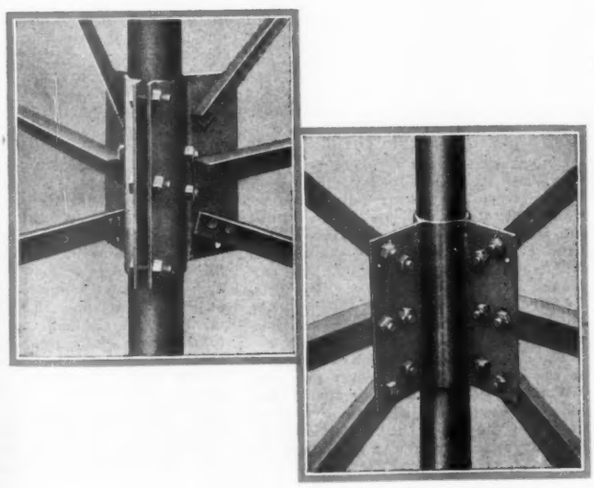

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Barbara Mesa, located about midway between Carpenteria and the Elwood Field, is another exceptionally promising area which may yield one or more new fields in the very near future. Every major company in the State and quite a number of independent operators have tied up potentially productive acreage and it is a certainty that several wildcats will be drilled in this area shortly. Practically every acre along the shore line from Gaviota to Rincon has been tied up as potentially productive acreage and appears certain of being tested out some time this year. The Bankline Oil Co. has already started work on the Duncan property just west of Santa Barbara, the bit being down 2,581 feet a few days ago. The Exeter Oil Co. and the Olympic Oil & Refining Co. are also starting drilling operations in this area. The Olympic Oil & Refining Co.'s wildcat has been delayed because of restrictions against drilling incorporated in the deeds of acreage in the Palisades tract but these were recently released and the company is now in a position to go ahead with this work, although court action may be necessary to definitely clarify matters.

### Standard Very Active

The Standard Oil Co. of California has been exceptionally active in Santa Barbara County and, in addition to its own exploration work at Point Arguello and at Point Conception, has acquired protective acreage in several other promising areas. The James Marwick ranch, comprising 68 acres adjoining the Duncan ranch of the Bankline Oil Co., was tied up several weeks ago by the Standard simultaneous with the acquisition of an option to lease the 317-acre Santa Barbara County Farm east of Goleta. The Standard is paying rentals totaling in excess of $5,000 a month for adjoining property which it has already tied up or has options to exercise at its convenience. The Standard recently acquired an option on the St. Vincent's Orphanage, situated on a 143-acre tract. The Union has acquired considerable acreage near the Santa Barbara lighthouse east of the exploration work now under way or contemplated by the Bankline, Exeter and Western Oil & Refining Companies. It is unknown just when the Union will begin drilling although this work will probably be undertaken in the near future as the area in question looks exceptionally promising. The Pacific Western Oil Co., which acquired the holdings of the Petroleum Securities Co. a few months ago, has leased 110 acres lying just below the Gibralter Dam at Santa Barbara and while no definite arrangements have been made the company has tentatively set May 1 as the date upon which spud will be made. The Pacific Western has also taken over a government lease held by the Rosecrans Oil Co. and controls a total of 2,650 acres in this vicinity. The Pacific Western has also acquired 32 acres near the Continental's wildcat at Carpenteria but this is for protective purposes only.

### Good Prospects in Coastal Area

The coastal area, extending from Point Arguello southeastward to Rincon, has exceptional possibilities and, as has already been stated, is expected to yield one or more fields during the current year. These probable new fields will yield production in the Vaqueros formation and should be similar in many respects and probably as productive as the prolific Elwood Field, which was opened up by the Barnsdall and Rio Grande Oil Companies a few months ago. All prospecting work in this area should therefore receive the closest scrutiny during the next several months because the discovery of new fields in that vicinity should have a direct bearing on State production, especially if the productive acreage should be held by a number of various operators.

### Upholds Tideland Leasing

The State Supreme Court, which upheld the constitutionality of the California Tideland Leasing Act on December 31, 1928, and subsequently denied application for a rehearing, has made it almost obligatory for Surveyor General Kingsbury to immediately issue tideland drilling permits which have been filed in good faith and are free of litigation. It remains to be seen, however, whether these permits will be granted, as considerable opposition has developed, especially from the State Administration. The possible issuance of tideland drilling permits is ecpecially interesting as it may result in the immediate drilling of several wells out beyond mean high tide at Rincon and possibly also at Elwood Terrace where the Barnsdall and Rio Grande wisely acquired tideland permits for their protection.

The General Petroleum Co. already has foundations in for one well on the Ferguson permit at Rincon but drilling operations were suspended several months ago because of litigation. The Bankline Oil Co. has a tideland drilling permit adjoining the General Petroleum's Ferguson lease to the west, while the Richfield holds drilling privileges east of the General Petroleum's lease. The State Legislature recently passed an emergency measure prohibiting the Surveyor General from accepting application for tideland drilling permits until after September 1, 1929, the object being to prevent any further development until the Legislature can work out some definite form of procedure. This emergency measure, which provides that no further permits for tideland drilling can be issued until after September 1, is not expected to be applicable in cases where applications were made previous to the passage of this bill, or prevent development of tidelands where leases have already been granted. Efforts to secure drilling privileges on State tidelands located out beyond the mean high tide line in the open ocean have met with persistent opposition both in the State Legislature and from private individuals. This State legislation has prevented the issuance of legal tideland drilling permits in most cases with the result that no work has become possible. Several structures, Huntington Beach, Rincon and Elwood Terrace, extend out into the open ocean but development of this portion has been held back, much to the interest of those holding adjoining acreage.

**TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS**

| Commodity— | Total this week | Daily average | Total last week | Daily average | This year to date | Same time last year |
|---|---|---|---|---|---|---|
| Crude oil | 110,550 | 15,793 | ..... | ..... | 110,550 | 1,266,344 |
| Diesel and gas oil | ..... | ..... | ..... | ..... | 389,566 | 449,739 |
| Gasoline | 454,637 | 64,948 | 342,464 | 48,923 | 3,214,580 | 1,730,265 |
| Coastwise— | | | | | | |
| Crude oil | 370,746 | 52,964 | 770,218 | 110,031 | 4,544,741 | 2,339,964 |
| Fuel oil | 400,681 | 57,241 | 331,097 | 47,300 | 3,160,704 | 3,048,833 |
| Diesel and gas oil | 9,937 | 1,420 | ..... | ..... | 97,959 | 191,288 |
| Gasoline | 234,701 | 33,527 | 252,322 | 36,046 | 1,800,189 | 2,030,637 |
| Kerosene | 694 | 99 | ..... | ..... | 1,833 | 14,615 |
| Naphtha distillate | ..... | ..... | ..... | ..... | ..... | 77,492 |
| Exports— | | | | | | |
| Crude oil | 28,303 | 4,023 | 151,468 | 21,638 | 522,636 | 383,308 |
| Fuel oil | 181,019 | 25,860 | 572,926 | 81,847 | 2,936,219 | 4,230,043 |
| Diesel and gas oil | 5,550 | 793 | 155,650 | 22,236 | 397,413 | 453,081 |
| Gasoline | 224,551 | 32,079 | ..... | ..... | 1,454,569 | 773,953 |
| Kerosene | ..... | ..... | ..... | ..... | 397,600 | 735,128 |

**TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC, GULF COAST PORTS**

| | | | | | | |
|---|---|---|---|---|---|---|
| Diesel and gas oil | ..... | ..... | ..... | ..... | ..... | 265,304 |
| Gasoline | 90,102 | 12,872 | ..... | ..... | 501,170 | 330,343 |
| Lubricants | ..... | ..... | ..... | ..... | ..... | 69,854 |
| Coastwise— | | | | | | |
| Fuel oil | 148,274 | 21,182 | ..... | ..... | 554,420 | 683,122 |
| Diesel and gas oil | ..... | ..... | ..... | ..... | 27,989 | 68,442 |
| Gasoline | 30,394 | 4,342 | 35,118 | 7,017 | 485,412 | 519,249 |
| Kerosene | ..... | ..... | ..... | ..... | 11,738 | 37,248 |
| Exports— | | | | | | |
| Crude oil | ..... | ..... | ..... | ..... | 71,453 | 45,102 |
| Fuel oil | ..... | ..... | ..... | ..... | 51,080 | 448,256 |
| Diesel and gas oil | ..... | ..... | ..... | ..... | 62,815 | 10,400 |
| Gasoline | 65,174 | 9,311 | 120,813 | 17,259 | 732,941 | 778,016 |
| Kerosene | ..... | ..... | ..... | ..... | 68,030 | 141,420 |
| Lubricants | ..... | ..... | ..... | ..... | 13,693 | ..... |

# FOUR COMPLETIONS IN MUSKEGON; LACK OF GAS HAMPERS OPERATIONS

By Special Correspondent

MUSKEGON, Mich., Feb. 23. — Four wells were brought in during the past week in the Muskegon oil field where operations have been seriously crippled by the cut in Dundee crude and lack of enough gas for drilling. It is the inability to flow some of the large Dundee wells enough to get gas that has shut off the supply to drilling wells.

Of the four wells brought in this week three will be oil producers making from 40 to 500 bbls. a day while the fourth is a dry hole in the upper Traverse. Two of the wells are in Laketon Township and two in Muskegon Township. The largest is Nelson and Witt's No. 1 F. J. Gates, SW NE Section 11-10-17, which came in at 2,059-60 feet. It was shut in immediately as it is a Dundee well. It is estimated good for 500 bbls.

The other new Laketon Township producer is the Royal Petroleum Co.'s No. 1 Murphy, NE NE Section 12-10-17, which struck gas in the upper Traverse at 1,680 feet and had a hole full of oil at 2,084 feet. It is an offset to the Johnson Oil Refining Co.'s No. 1 Grotefeld, NE NE Section 12-10-17, now making between 400 and 500 bbls. from the upper pay as the best producer in the Traverse formation in the field.

The Dundee Oil & Gas Co.'s No. 2 Cihak, NE NW Section 8-10-16, flowed 40 bbls. in the first 24 hours from the lower Traverse at 1,869-95 feet.

The Continental Motors Corp.'s No. 10 fee, NW NE Section 22-10-16, Muskegon Township, was dry at 1,708 feet and about to be abandoned.

Drillers were disappointed in C. W. Marsh and others' No. 1 Hallock, NW NW Section 7-10-16, which failed to become a producer in the upper Traverse. It is across the road from the Johnson-Grotefeld well. The well will be carried to the lower Traverse or Dundee gas sands from 1,680 feet the present bottom.

### Nearing Completion

Four wells in Muskegon Township and one in Laketon Township are nearing completion in the Dundee formation. Swastika Oil & Gas Co.'s No. 1 Berkema, SW NW Section 8-10-16, was pulling 8-inch casing to drill into the Dundee gas to supply drilling wells. It was cased at 2,023 feet. Johnson Oil Refining Co.'s No. 3 L. Heinz, SW NE Section 9-10-16, was recasing after a leaky job at 1,970 feet above the Dundee. Muskegon Development Co.'s No. 1 Toppen, SW NE Section 9-10-16, was being mudded at 2,000 feet and will be drilled in next week. Wright Oil Co.'s No. 3 Giles, SE SW Section 6-10-16, will be cased at 2,030 feet where the break was encountered. Acme Oil Co.'s No. 1 John Dykstra, NW SE Section 12-10-17, was drilling below 2,000 feet today and expecting to reach the casing point soon at which operations will be stopped until the Dundee price problem has been settled. Reed Oil Co.'s No. 4 Young, SE NE Section 11-10-17, made 600 bbls., although it had been estimated 1,000 bbls.

Only 11 wells were shut down in the Muskegon Township area for various reasons.

The deep test to 3,500 feet to be drilled on the Otto and Albert Becker property, NW SW Section 4-10-16, by the Muskegon Oil Corp., the Ottawa Petroleum Corp. and the Crude Oil Co. of Michigan, has not yet got under way as drillers are

(Continued on Page 130)

### Santa Fe Springs

The Union Oil Co. has just closed a very busy week, during which period seven new wells were finished in the Buckbee and Nordstrum horizons of Santa Fe Springs. The largest of these new wells which, incidentally, showed an aggregate initial production of 28,0[illegible] bbls., was No. 36 Bell, which came in under a natural flow doing 4,570 bbls. of unusually clean 35.7 gravity oil daily and 8,000,000 feet of natural gas which is yielding a little better than 2 gallons of natural gasoline for each 1,000 feet of gas treated. No. 37 Bell was also a very satisfactory completion as it tanked 4,150 bbls. of clean 36.2 gravity oil during the initial 24-hour test. No. 3[illegible] was finished at 5,850 feet and No. 37 at 5,848 feet. No. 38 Bell, the deepest of the Union's current completions, was carried down to 6,020 feet, from which depth it was brought in flowing 4,25[illegible] bbls. of clean 35.2 gravity oil and 4,80[illegible]000 feet of wet gas daily. No. 39 Bell only showed an initial of 2,400 bbls. daily during the initial 24-hour test from 5,3[illegible] feet but built up the following day to 4,000 bbls. and has maintained this figure consistently since getting under way. No. 31 Bell, which was finished during the early part of the week at 5,388 feet, also increased after being on production for a few days as the current output is 3,850 bbls. daily, as compared with 2,[illegible] bbls. initially. The Union also added two new wells on the Alexander lease during the early part of the current week, No. 13 blowing in under a natural flow doing 2,240 bbls. daily from 5,850 feet, and No. 15 making 3,022 bbls. per day from 5,8[illegible] feet.

The Standard has not experienced its usual run of success in its deep zone exploitation at Santa Fe Springs as only a few satisfactory completions have been finished up to the present time. Four wells were completed by the company during the past seven-day period but only two of them, however, will probably ever pay out. These were Nos. 14 and 15 on the Walker lease, which tanked 1,9[illegible] bbls. and 1,875 bbls. from 5,800 feet and 5,791 feet, respectively. No. 18 Walker finished at 5,782 feet, and No. 9 Koontz completed at 5,825 feet, failed to result in a natural flow and it was necessary to put both of them on the beam. The former is pumping 150 bbls. of clean [illegible] gravity oil, while the latter is pumping 75 bbls. of oil and 50 bbls. of water. The Texas Company also found it necessary to resort to artificial means to stimulate production as its No. 12 on Mattern Lease No. 3 failed to respond with a natural flow. It was accordingly put on the beam at 5,778 feet and is pumping [illegible] bbls. of clean 35.2 gravity oil daily. The Richfield Oil Co. successfully finished two new producers during the past week, their combined initial daily production aggregating 6,210 bbls. No. 1 G. P., which was carried down to 5,889 feet and finished with a 6¾-inch oil string, was brought in flowing 3,265 bbls. of exceptionally clean 35.5 gravity oil and 5,[illegible]000 feet of wet gas daily, while No. 1 Industrial, which was finished during the early part of the week, made 2,945 bbls. of clean 34.9 gravity oil and 7,500,[illegible] feet of saturated gas daily.

The General Petroleum only finished one new well this week but should have several more tanking oil in the near future. The company's new producer was No. 186-D Santa Fe, which tanked 2,[illegible] bbls. daily from 5,870 feet. This company, which assumed the initiative immediately following the completion of the Wilshire's discovery well late last year, still heads the list from both a development and production standpoint as it has 35 strings of tools in operation and an aggregate daily production of 56,000 bbls. at the present time. The Union Oil Co. is next with 23 drilling projects and a total current daily production of 32,[illegible] bbls., followed by George F. Getty with 12,000 bbls., The Texas Company with 10,500 bbls., Richfield with 7,125 bbls. and Shell with 5,100 bbls. daily. The Rio Grande Oil Co. secured its initial deep-zone production at Santa Fe Springs

(Continued on Page 121)

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ANYWHERE

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ANY TIME
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# Some Good Wells in the Eastern Field

## Deep Sand in Southeast Ohio and Butler County, Pennsylvania, Furnish Best Completions. New Work in West Virginia

By D. S. Wakenight
*Staff Correspondent, Eastern Fields*

PITTSBURGH, Pa., Feb. 25.—A few good wells were completed in the deep sand territory in Southeast Ohio and one in Buffalo Township, Butler County, Pennsylvania, while the West Virginia fields trailed along with light pumpers and gassers. In West Virginia the gas companies are the most active, with Boone and Lincoln Counties at the head of the list. There is considerable new work starting in West Virginia and it is widely distributed. With the exception of that starting in Ravenwood district, Jackson County, it is located for the most part in the old district, long since defined.

An active search for strictly new producing territory will not take place before next spring, and not then if the market should decline. Some of the old operating companeis, idle for some years, have come back and are drilling odd locations where there is still room. There has been scarcely a time for more than a year when the supply of Pennsylvania grade crude was equal to the demand. To this is due the present high market for that grade. No amount of drilling in the Eastern fields is likely to bring a change in conditions for prolific producing territory is not available and the new wells completed are not able to furnish enough to meet the decline in the old.

### SOUTHEAST OHIO

Southeast Ohio had more good producers than any other section during the past week. In the northeast quarter of Section 5, Hopewell Township, Muskingum County, the Hope Construction & Refining Co. completed No. 3 on the Joseph Varner farm. It produced 180 bbls. the first 24 hours after drilled through and shot in the Clinton sand.

In Section 2, Knox County, the Pure Oil Co. completed a test on the Parker J. Marvis farm. It did not flow when drilled through the Clinton sand but after standing two days they recovered 130 bbls. by swabbing.

In the northwest quarter of Section 24, Coal Township, Hocking County, the Chartiers Oil Co. completed and shot No. 209, on the Hocking Valley Production Co.'s tract, in the Clinton sand. It produced 50 bbls. the first 24 hours. In the southwest quarter of Section 23, Ward Township, the Gordon Oil Co. got a 15-bbl. pumper at No. 8 on the Robert Stone farm.

In Section 25, Hardy Township, Holmes County, the Ohio Fuel Gas Co. completed a test on the H. H. Nethrow farm. It is a duster at a total depth of 3,517 feet. In Lot 12, Monroe Township, the Arkansas Fuel Oil Co. has a gasser in the Clinton sand on the James T. Patterson farm.

In the southeast quarter of Section 21, Harrison Township, Perry County, the Buckeye Supply Co. completed in the Clinton sand a test on the A. S. Wilson farm. It is a 5-bbl. pumper at a total depth of 3,732 feet.

In the northwest quarter of Section 13, Jackson Township, Guernsey County, the Preston Oil Co.'s No. 3 on the R. F. Dennis farm is a gasser in the Berea grit good for 250,000 feet.

#### Duster in Hocking County

In the northeast quarter of Section 24, Ward Township, Hocking County, the Kachelmacher estate has drilled through the Clinton sand No. 30 on the James J. Tracy estate. It is a duster and has been abandoned.

In the northwest quarter of Section 10, Franklin Township, Licking County, the Preston Oil Co. has completed in the Berea grit No. 4 on the H. E. Morris farm. It is a light pumper good for not more than 3 bbls. a day. In Section 23, Island Creek Township, Jefferson County, A. D. Cubbon and others have completed No. 4 on the Catherine E. Wilt farm. It is a 2-bbl. pumper. In Section 17, same township, William B. Tope and others are drilling on the Joseph Thornly farm. In Section 22, Harry C. Kellerman is drilling on the George W. Morrow farm.

In Section 1, Washington Township, Hocking County, the Preston Oil Co.'s No. 5 on the Cynthia A. Marks farm is a 5-bbl. pumper in the Clinton sand. In Section 2, same township, the same company has the rig completed for No. 4. In Section 21, Hopewell Township, Perry County, the Dun Mar Oil & Gas Co. has a 5-bbl. pumper on the R. L. Rounsell farm.

In Section 3, Falls Township, Muskingum County, L. W. Luther & Co. have a duster at a second test on the R. E. Reehl farm. In Salem Township, the Preston Oil Co. has a rig completed on the Eli Deery farm. In Section 10, the Atha Drilling Co. is drilling at 1,800 feet on the Allied Coal Co.'s property. In Perry Township, the Rymilper Oil Co. is due in the sand on the Harry E. Dutro farm.

In Fallsbury Township, Licking County, the Preston Oil Co.'s No. 4 on the N. E. Morris farm is a very light pumper. In Section 13, Pike Township, the Leonard Oil & Gas Co. is rigging up on the Hattie Russell farm. In Jackson Township, Muskingum County, the Pure Oil Co. is drilling a second test on the Floyd Anderson farm.

#### Meigs County

In Lot 284, Sutton Township, Meigs County, the Preston Oil Co. has a very light pumper in the Berea grit at a second test on the Joseph E. Jividen farm. In the northeast quarter of Section 17, same township, C. D. Sloan & Co. have a duster in the Cow Run sand at No. 4 on the J. E. Stobert farm. In Lot 295, same township, the Preston Oil Co. had the same luck on the Frank Stowe farm.

### WEST VIRGINIA

In Geary district, Roane County, the United Fuel Gas Co. has a gasser in the Big Injun sand at No. 2,520 on the Brown, Goshorn & Swan tract. In Reedy district, the same company's No. 3,855 on the R. E. Seaman farm is a gasser in the Big Injun sand.

In DeKalb district, Gilmer County, the Hope Natural Gas Co.'s No. 7,235 on the V. M. Nicholsan farm is a gasser. In Washington district, Calhoun County, the same company has a gasser in the Big Injun sand on the Smith farm. In the same district, the Pure Oil Co.'s test on the McClain & Co. farm is dry in the Big Injun sand, but is a light gasser in the Salt sand.

In Murphy district, Ritchie County, R. C. Brand has completed a test on the McCush farm. It is a gasser in the Big Injun sand. In Scott district, Boone County, the Cameron Oil & Gas Co. has a gasser at No. 11 on the Anderson farm. In the same district, the United Fuel Gas Co. has a gasser in the Berea grit at No. 1,947 on the Horse Creek Mining & Land Co.'s tract.

#### Lincoln County

In Jefferson district, Lincoln County, Hobbs Brothers have drilled a test on the H. F. Lovejoy farm from the Big Injun sand to the Berea grit. It is a gasser in the lower formation. In the same district, the United Fuel Gas Co. has a gasser at No. 2,515 on the Horse Creek Coal & Land Co.'s tract. In the same district, Earl Cameron has a gasser on the Anderson farm.

In Elk district, Kanawha County, the Virginian Gasoline & Oil Co. drilled down from the Squaw to their Weir sand No. 1 on the A. N. Catebell farm. It was drilled five years ago, a duster, and now is a light pumper in the lower formation. On Holts Run, DeKalb district, Gilmer County, the Hope Construction & Refining Co.'s test on the Frank Wilson farm is a light gasser in the Big Injun sand.

In Union district, Ritchie County, the Carnegie Natural Gas Co. has completed in the Big Injun sand a test on the G. R. Vincent farm. It is a gasser, 2,000 feet west of the test on the Jane Phillips farm. In Henry district, Clay County, the United Fuel Gas Co. has completed No. 2,534 on the Brown, Goshorn & Swan tract. It is a gasser in the Big Injun sand good for 500,000 feet. In DeKalb district, Gilmer County, the South Penn Oil Co. has shot and cleaned out its old No. 5 on the Lafayette Hardon farm, increasing its production from 6 bbls. a week to 5 bbls. a day.

#### Hancock County

On Kings Creek, Butler district, Hancock County, John F. McIntosh completed in the Berea grit a test on the McIntosh heirs' farm showing for a 5-bbl. pumper. On Holts Run, DeKalb district, Gilmer County, the Hope Construction & Refining Co.'s second test on the V. M. Nicholson farm is a light gasser in the Big Injun sand. In the same district, the South Penn Oil Co. cleaned out No. 5 on the S. H. Hardman farm, increasing its production from 3 to 20 bbls. a day.

On Beels Branch of Twelve Pole Creek, Harvey district, Mingo County, the Red Jacket Coal & Coke Co. has drilled No. 5 on the Red Jacket Coal & Coke Co.'s tract into the Maxon sand. The location is 1,000 feet northwest of No. 3 on the same tract and it is a gasser good for 5,500,000 feet. It will probably be drilled deeper after the gas pressure has subsided. The oil-producing pay in that locality is found at some depth below the gas.

On Rock Creek, Spencer district, Roane County, the Hope Construction & Refining Co. has shot and cleaned out No. 5 on the George E. Whitney farm. Its production was increased from 1½ bbls. to 6 bbls. a day. In McElroy district, Tyler County, the Hope Natural Gas Co. has a Big Injun gasser at No. 8 on the M. B. George farm.

In Washington district, Lincoln County, Heabon & Huffman's test on the Courts heirs' farm is a duster in the Berea grit. In the same district, the Harvard Gas Co. is drilling on the Standard Fuel Gas Co.'s property. In Duval district, the United Fuel Gas Co.'s No. 2,533 on the Lewis heirs' farm is a gasser in the Berea grit. In Big Sandy district, Kanawha County, the United Carbon Co. has a gasser in the Weir sand, No. 21 on the Osborne farm.

#### Tests Starting

On Buck Run of Sandy Creek, Ravenwood district, Jackson County, the South Penn Oil Co. has started to drill No. 3 on the C. S. McCarty farm, 1,500 feet southwest of the first test, which is still holding at 65 bbls. a day. On Sand Creek, same district, the Heck Oil Co. has the rig completed for No. 3 on the George Kuhl farm. In Lafayette district, Pleasants County, Riggs & Reed are starting another test on the Perry Riggs farm. In Center district, Wetzel County, Burley & Orndoff are drilling deeper their test on the Charles Pyles farm. In Meade district, Marshall County, the Valley Oil & Gas Co. has started to drill on the George Yohos farm. Church district, Wetzel County, Pure Oil Co. has a rig up on the C. Cole farm. In Geary district, Ro County, the United Carbon Co. has material at a location on the E. R. ley farm.

In Grant district, Cabell County, Aetna Oil & Gas Co. is due in the on the C. H. Hall farm. In the district, the Harshbarger Oil & Gas is rigging up on the C. & O. R. R. erty. In Curry district, Putnam Co Baker & Osborne are due in the sand the Farmers & Shippers property. Collins Settlement district, Lewis C ty, H. P. McGinnis is due in the on the L. D. Anderson farm. In T district, Gilmer County, C. M. Benn is rigging up on the Howard Kel farm. In Murphy district, Ritchie Co ty, J. C. Cochran is rigging up on own farm. In the same district, the M er Farm Oil Co. is rigging up on R. P. Miller farm.

#### Ravenwood District

In Ravenwood district, Jackson Co ty, the Heck Oil Co. is due in the sa on the C. J. Brown farm. In DeKa district, Gilmer County, J. C. Kelly others are building a rig on the J. Kelly farm. In Center district, Calhou County, the Steer Creek Oil & Gas C has started to drill on the A. H. Stu farm. In McElroy district, Tyler Co ty, Headley Brothers are moving a dri ing machine to a location on the I. Smith farm. In Hackers Creek district Lewis County, the Standard Gas Co. started to drill on the Wade Dennis farm. In the same district, Fred Fletch er is rigging up on the Benton A. Smi farm.

On Big Run of Cove Creek, Gilmer district, Gilmer County, C. M. Benne & Co. have a rig completed on the H. B. Kester farm. On Burke's Branch Big Sandy district, Kanawha County the United Fuel Gas Co. has the ri completed for No. 2,550 on the Kin King Land Co. tract. On McFarlan Creek, Murphy district, Ritchie County the Hope Construction & Refining Co has a rig up on the Anna M. Wilso farm.

On Salem Fork, Ten Mile district Harrison County, the Salem Concrete Co. has the rig completed on the Tilde Williams farm. In Center district, Cal houn County, W. H. Bickel has a rig up on the C. A. Witt farm. On Big Island Creek, Clay district, Wirt County, Daile Brothers have moved a drilling machine at a location on the D. E. Smith farm.

#### Good Producer in Butler County, Pa.

In the new pool in Buffalo Township, Butler County, Pennsylvania, the Phillips Gas & Oil Co. completed in the Fifth sand No. 3 on the Chester Harvey farm. It started at 25 bbls. an hour but declined rapidly and at the end of three days was down to 300 bbls. In the northeast quarter of the pool, the A. E. Brown Co. and Trees completed in the same formation the first test on the J. H. Trees farm. It was a gasser in the upper sand and is now a 10-bbl. pumper. The hope for an extension to the pool is now to the south and southwest.

In Richhill Township, Greene County, the Carnegie Natural Gas Co. has drilled deeper a second test on the J. L. Barnes farm. It is a gasser in the Gordon sand.

### GAS INDUSTRY ACCOUNTANTS

Accountants of the gas industry will meet for the first annual spring conference of the accounting section of the American Gas Association at Chicago, Ill., March 21 and 22. E. B. Nutt, of the Peoples Natural Gas Co., Pittsburgh, Pa., is a member of the program committee.

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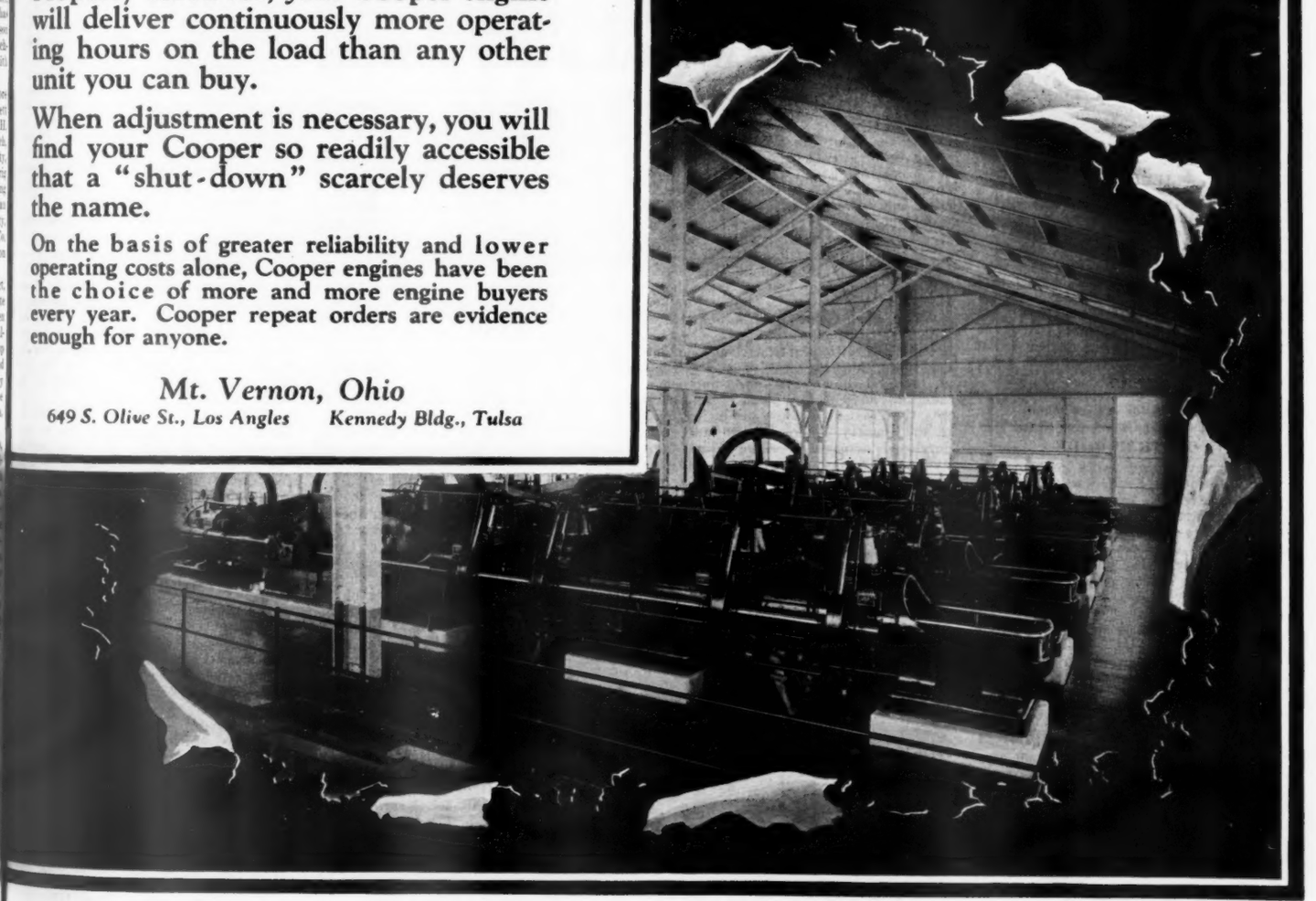


# Central Ohio Gas Companies Busy

## Their Activity Continues the Chief Interest in Operations in Central West Fields. Weather Big Handicap

By Whit

*Staff Correspondent, Central West Fields*

FINDLAY, Ohio, Feb. 25.—Not in many years have the oil people experienced such a winter, one of the coldest experienced in the fields of northwestern Ohio, Indiana and Illinois since the old Trenton Rock Field was opened up in the early nineties.

The old Lima Field failed to report a single completion since the last review of the fields, and Indiana had only one to report which is in the extreme southern portion of the State while the southeastern part of Illinois had two wells. Were it not for the activity in the Central Ohio Field by the large gas companies, it would not take much space to enumerate them all.

### INDIANA

Southern Indiana has a new well at Rocky Hill, 4 miles north of Rockport, in Spencer County, at 1,265 feet. Three feet of sand was drilled into at night and the operations halted until morning. Great expectations had been in the air for some weeks as a complete test of the large block of acreage was to be made. Several small wells are now in operation but have not proved out in production as expected. A great rush was made for acreage in the neighborhood but development has been slow. Former Sheriff Roberts of Spencer County is interested with eastern capital in developing the block in which the last well was found. Further tests of the prospective oil field around Troy, Ind., are being made by the Packard Oil Co. which has drilled in its No. 1 on the A. C. Grass farm, 300 feet southwest of a gas well, reported showing for possibly a 5-bbl. well unless a shot shows an improvement in the oil showing.

### ILLINOIS

Two completions are reported from the Allendale Field, in Wabash Township, Wabash County, Illinois, where Joe S. Young, Jr., and others got a dry hole, 600 feet from the south and west line of the L. G. Stillwell, Section 12, at a depth of 1,710 feet, and the same parties got one in No. 10 well, 1,000 feet from the south line and 200 feet from the west line of the Joseph Keyser farm, in the southwest quarter of Section 13, at a depth of 1,480 feet.

No completions are reported from the Harrisburg Field in Saline County, in the southeastern part of the State.

### CENTRAL OHIO

Active development work continues in the Central Ohio Field, due to the fact that the large gas companies are hunting for all the natural gas they can find and are doing a lot of test work, in hopes of uncovering new productive gas areas, for wells within the defined limits of the various counties usually come in very small compared to the earlier days.

During the week a total of 18 wells was completed of which 4 were oil wells with an initial combined production of but 13 bbls., 6 dry holes and 8 gas wells. In new work starting 14 new locations are reported and 19 new wells started drilling, making a total in new prospects of 33, indicating that the work of hunting new oil and gas production will continue during the winter.

Ashland County is credited with three completions. In Perry Township, Robinson and others' No. 9 W. E. Strine, Section 20, pumped 3 bbls. from the Berea sand, while No. 10, same farm, proved a dry hole. In Orange Township, the Logan Gas Co. failed to find any pay sand in No. 1-3,058 on the C. P. Miller, Section 14, and goes as a dry hole. Same company has started drilling No. 1-3,067 on the Ira C. Richards, same section, and made a location for No. 2-3,082 on the John Obrecht, Section 36, Vermillion Township, near where M. and S. Bartner recently found a nice gas producer on another of the John Obrecht farms, same section.

In Medina County, Harris Township, Harmon and George are drilling a second test on the W. W. Wood, Lot 151. In Lorain County, the Ohio Fuel Gas Co. made a location for No. 2-3,468 on the Fred M. Nobles farm, in Eaton Township, while the Chemical Oil & Gas Co. made a location for a second test on the John T. April, Lot 92, Grafton Township, same county.

### Wayne County

In Wayne County, Congress Township, the Ohio Fuel Gas Co. has a nice gas well in No. 1-3,351 on the W. O. Fulton, Section 13, and is drilling No. 1-3,435 on the G. V. Kline, Section 7.

The Preston Oil Co. drilled a dry hole in 1-1,253 on the H. H. Nethro, in the Third-Quarter Section, of Hardy Township, Holmes County. East Ohio Gas Co. made a location for No. 3 on the H. C. Roby, Section 14, Richland Township, same county.

In Richland County, the Ohio Fuel Gas Co.'s No. 3-3,399 on the S. M. Douglass, Section 13, Monroe Township, is only a light gas producer.

In Knox County, Pike Township, the Ohio Fuel Gas Co.'s No. 1-3,395 on the L. H. Colvin, Section 10, is an average gas well, at from 2,641 to 2,643 feet. Same company made a location for No. 4-3,465 on the John A. Reed, Section 10, Brown Township.

In Summitt County, Franklin Township, F. A. Brendall and others found a very nice gas producer on the Isaac Hose, Section 27, at a depth of 3,990 feet. East Ohio Gas Co. made a location on the F. J. Mason, Section 14, same township. East Ohio Gas Co. staked a location on the Henry Steese, Section 21, Green Township, same county.

In Licking County, Franklin Township, Armstrong & Lytle's No. 11 on the J. W. Motherspaw, Section 12, is reported at 3 bbls. McClay Brothers have a light gas well on the Emmett Hoover, Perry Township, in the shallow sand at from 580 to 596 feet. Wittmer Properties Trustee is drilling a second test on the Helen Kidwell, Section 24, Fallsburg Township. Wigdon and Merchant are drilling No. 4 John W. Little, Section 8, and the Emerald Petroleum Co. is drilling No. 1 Jacob Weiss, same section. In Hanover Township, the Hope Construction & Refining Co. made a location for a second test on the J. [illegible] Griffin, and is also drilling a second test on the Noah Coomes, Section [illegible] Hopewell Township. Same company is drilling No. 3 on the J. Varner, Section 5, Jackson Township, Muskingum County.

In Athens County, the Ohio Fuel Gas Co. has a nice gas producer in No. 3,374 on the J. T. Fleming, Section [illegible] Ames Township, in the lower Berea sand at from 1,510 to 1,531 feet, drilled to a total depth of 1,537 feet. Wiser Oil Co. has a light gas well on the Florence Potter, same section, in the same formation. Orondorff and others are drilling No. 2 Vesta C. Thompson, Section 3, and No. 2 Myrta Green, Section [illegible] same township. In Berne Township, the Ohio Fuel Gas Co. drilled in a gas well in No. 1-3,420 on the C. [illegible] Henry, Section 34, getting the gas in the lower Berea sand at from 1,579 to 1,599 feet and going to a total depth of 1,605 feet. Same company is drilling No. 1-3,433 on the E. J. Elliott, Section 35, same township, and in the lower Berea sand in No. 3-3,432 on the [illegible] C. Glass, Section 30. In Carthage Township, the Hope Construction & Refining Co. has a 2-bbl. pumper in No. 4 on the Ida B. Davis, Section 12, at a depth of 1,829 feet.

### Meigs County

In Meigs County, the Ohio Fuel Gas Co.'s No. 1-3,358 on the Frank Stowe, Section 36, Sutton Township, is a dry hole in the upper Berea sand at from 1,754 to 1,764 feet, total depth drilled 1,765 feet. Tyree and others have a dry hole at No. 6 Jos Stobart, Section 17, and are drilling No. 1 on the Stobart No. 2 farm, same section. Frick and Barnaby made location for No. 4 on the Wesley Genheimer, Section 21, Chester Township, same county. Ohio Fuel Gas Co. is drilling No. 1-3,271 on the Charles Brickler, in fractional Section 24, Bedford Township.

In Jackson County, the Penn Ohio Gas Co. made a location for No. 4 on the Leon Evans farm, in Lick Township, also a location for No. 5 on the L. M. Evans, Section 2, Franklin Township. Ohio Fuel Gas Co. has abandoned its location for No. 4-3,439 on the Ida E. Jones, Section 23, same township. Same company made a location for No. 1-3,458 on the Julia Hill, Lot 84, Lick Township, also for No. 1-3,470 on the Lilly D. Long, same lot.

In Vinton County, Elk Township, the McArthur Brick Co.'s test on its own property, Section 27, is a dry hole in the Clinton sand from 2,836 to 2,852 feet, total depth drilled 2,862 feet. J. A. Robinson and others are drilling on the Christ Herrold, Section 3, same township.

In Guernsey County, Blackstone and others made a location for No. 4 J. O. Alloway, Section 10, Wheeling Township.

In Morgan County, Penn Township, the Dunn Oil Co. drilled a light gas well in No. 14 on the Nancy Hann, Section 2, getting the gas pay in the lower Berea sand at from 1,596 to 1,618 feet, total depth 1,623 feet. Mambourg Development Co.'s second test on the Fred E. and Bertha Williams farm, is also a light gas producer in the same formation, the pay being found from 1,572 to 1,593 feet, drilled to a total depth of 1,605 feet. Penn Oil & Gas Co. is drilling deeper No. 2 on the C. and M. Meendenhall, Section 14, same township. It had been drilled to a depth of 932 feet. In Marion Township, the Kemrow Co. is drilling on the Plumey J. Riggleman, fractional Section 25. Penn Constructing

(Continued on Page 179)

## OHIO COUNTY, KENTUCKY, FIELD HAD A BAD RUN OF DUSTERS

By Whit

OWENSBORO, Ky., Feb. 25.—Operators in the Kentucky fields have experienced hard work getting to their various properties, as the roads were all but impassable. A few wells are reported from the eastern portion of the State which has been very quiet. The western area remains active and will as long as weather conditions will permit, for there are large areas of good looking territory yet to develop out of Owensboro, Hartford and other points. Farther south in Allen County, in the old Scottsville Field, the wildcatters have been hit pretty hard with practically nothing but dry holes, but the cost of the drilling of these shallow wells does not mean much to a field that some years back was the greatest shallow producing field in the country. There is still much undeveloped acreage in Allen County as well as in Simpson, Warren and adjoining counties.

The runs of the Cumberland Pipe Line Co. from the eastern Kentucky fields for the week ending February 9, amounted to 41,225.89 bbls.

### Week's Work

A summary of the week's work in the Kentucky fields shows 27 completions, 12 producers with an initial production of 287 bbls., 14 dry holes and 1 gas well.

| County— | Comp. | Oil wells | Prod. | Dry | Gas |
|---|---|---|---|---|---|
| Daviess | 6 | 5 | 230 | 0 | 1 |
| Ohio | 5 | 0 | 0 | 5 | 0 |
| Allen | 6 | 0 | 0 | 6 | 0 |
| Warren | 1 | 1 | 1 | 0 | 0 |
| Simpson | 1 | 0 | 0 | 1 | 0 |
| Johns'n-Magoffin | 4 | 4 | 45 | 0 | 0 |
| Wayne | 2 | 1 | 5 | 1 | 0 |
| Menifee | 1 | 1 | 6 | 0 | 0 |
| Estill | 1 | 0 | 0 | 1 | 0 |
| Total | 27 | 12 | 287 | 14 | 1 |

### EASTERN KENTUCKY

In the eastern Kentucky fields, District 2, Wayne County, the Coffey Oil Co. found a dry hole on the H. C. Coffey farm. In District 5, the Barrier Oil Co.'s No. 17 Randall Ramsey farm, pumped 5 bbls. from the Beaver sand.

In the Irvine Field, District 7, Estill County, the Superior Oil Co.'s No. 15 on the Clayburn Tipton farm, is a dry hole. Shearer & Hurst are reported near completion with No. 5 on the Coyle heirs' farm, District 13.

In Johnson-Magoffin Counties, District 27, Baldwin and Morgan's No. 4 on the Nancy Vanderpool farm, is good for 15 bbls., and No. 5 is starting. In District 6, Hudson and Collins have a 5-bbl. pumper in No. 8 Milt Tackett farm. The Boston-Southwestern Oil & Gas Co.'s No. 16 on the Frank Conley 200 acres, District 30, is a 5-bbl. pumper. In District 31, Hupp and Duff's No. 11 on the B. F. Whitt No. 1 farm, produced 20 bbls. initial while No. 7 on the J. M. Frazier, on Short Fork, same district, is reported good for 10 bbls. but when first drilled in had an initial of 25 bbls.

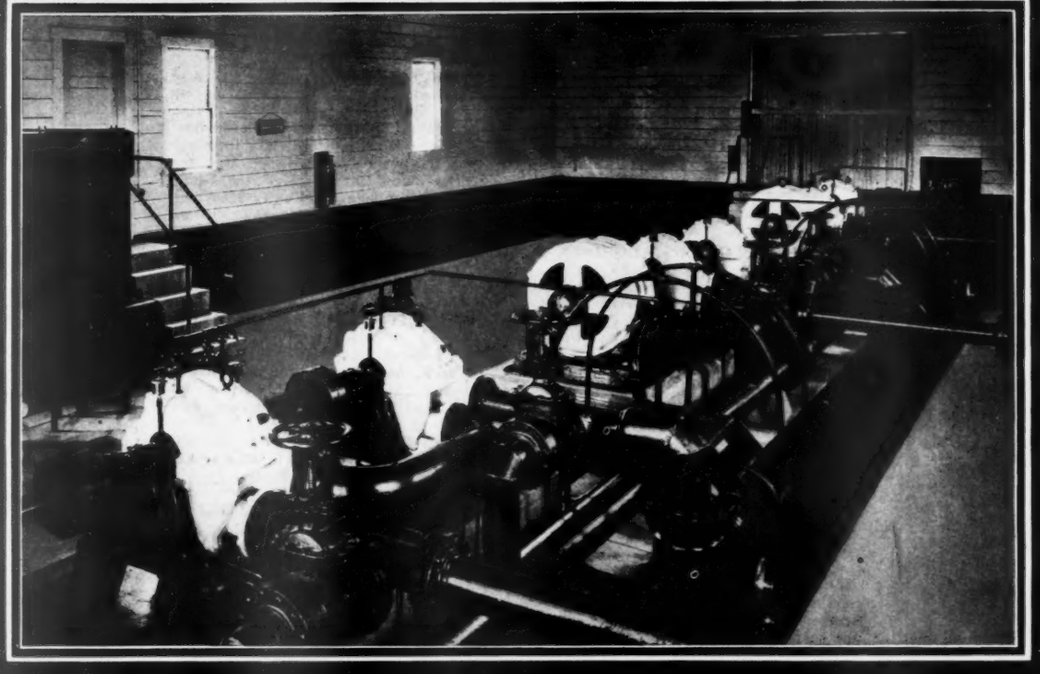
In Menifee County, District 9, the Wells Oil & Gas Co.'s No. 4 on the H. and D. Wells farm, pumped 6 bbls.

In Floyd County, in the Beaver Creek area, District 21, the New Domain Oil & Gas Co. is drilling No. 2 on the Howard Purchase farm. The Yolando Oil Co. is starting a test on the Caroline Collins farm, and the United Carbon Co. is starting a test on the Melvin Allen farm, same field.

### WESTERN KENTUCKY

Two of the western Kentucky divisions were hit hard since the last review, there being 5 dry holes found in Ohio County and 6 in Allen County. Reports have just been made for December in the handling of the pipe lines of crude oil produced in Ohio County. The total runs were less than for November due to the holiday season. The December runs totaled according to the Messenger-Inquirer of Owensboro, 153,187.05 bbls. against the November figures of 153,542.47 bbls., a decrease of 10,355.42 bbls.

(Continued on Page 179)



# Lower Costs *with* Centrifugals

**Byron Jackson centrifugal pipe line pumps, wherever used, are demonstrating their ability to lower operating costs. This is due to their ruggedness, reliability, simplicity, lower first cost and lower maintenance. Byron Jackson centrifugal pumps are standard equipment with many of the biggest oil companies.**

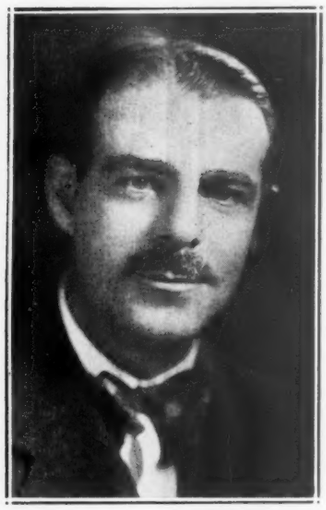
BYRON JACKSON PUMP MFG. CO.
Factories: BERKELEY, Los Angeles, Visalia
Branches: San Francisco, Portland, Salt Lake, Dallas, Phoenix

**BYRON JACKSON**
CENTRIFUGAL PUMPS FOR EVERY SERVICE

# EQUIPMENT AND SUPPLIES

## J. J. CURRAN GOES TO HARRISBURG COMPANY

James J. Curran, for many years metallurgist with the Southern Engineering Co., Hartford, Conn., is now metallurgical engineer with the Harrisburg Pipe & Pipe Bending Co., Harrisburg, Pa. Mr. Curran was educated at Worcester Polytechnic Institute and Cornell University. During the war he was employed as chemist and metallurgical inspector of war materials. Since the war he has been engaged in general metallurgical investi-



J. J. Curran

gation and consultation with the Henry Souther Co.

Mr. Curran will be in charge of chemical and metallurgical control and development of carbon and alloy steels, hydraulic and drop forgings and drawn seamless cylinder specialties manufactured by the Harrisburg company. He is a member of the American Society for Steel Treating, the American Foundrymen's Association and the Iron and Steel Institute (British).

### BUSINESS NOTES

The North American Car Co. recently placed an order with the Pressed Steel Car Co. of Pittsburgh for 500 new tank cars equipped with Young bottom outlet valves.

F. L. Cotterman has been made manager of the Houston, Tex., branch of Whealton & Townsend, Inc.

Ray S. Levering has been appointed a vice president of the Lucey Products Corp. He is manager of sales for the Southern district of the company, which includes southern Texas, Louisiana and Arkansas.

W. B. Jennings, in charge of engineering and sales for the Hope Engineering Co., Mt. Vernon, Ohio, was in Los Angeles, Calif., recently looking over that territory, accompanied by A. R. Thomas, Pacific Coast manager. The company, which has an office in Los Angeles, does pipe line and power plant construction work.

The Oil Tools division of the Byron Jackson Pump Co., Los Angeles, Calif., is establishing warehouses in Long Beach, Lawndale, Santa Fe Springs, Bakersfield, Taft, Coalinga and Ventura, Calif. Arthur E. Raine has been made Mid-Continent manager of the division, in charge of sales and distribution in Texas, Louisiana, Oklahoma, Kansas, Wyoming and Colorado.

### SERVICE OFFICE OPENED

The National Tube Co. of Pittsburgh, Pa., has opened service offices at 726 Exchange National Bank Building, Tulsa, enabling it to be of greater assistance to oil operators of the Mid-Continent Field in solving pipe problems. W. J. McKee, field engineer for the company, has been moved to Tulsa, and will travel over the various fields from that point. F. R. Braman continues as field representative for the company. He has been in the Mid-Continent 10 years.

### ALLINSON GOES TO LONDON

J. J. Allinson, who recently resigned as assistant general manager of refineries for the Marland Refining Co., Ponca City, Okla., has been made London representative for Arthur G. McKee & Co., Cleveland, Ohio. In 1905 Mr. Allinson went to work for the Midland Valley Railroad as an engineer and later entered the service of the Southern Pacific Railroad in an engineering capacity. As the Southern Pacific developed its oil enterprises Mr. Allinson gradually assumed charge of the construction of its pipe lines and other field operations. After the formation of the Associated Oil Co. he was transferred to this subsidiary and for eight years was chief engineer. In 1914 Mr. Allinson began a general contracting business, which he carried on for two years in California, doing business chiefly for oil companies. In 1917 Mr. Allinson became associated with the Empire Gas & Fuel Co. as chief engineer, with offices in Bartlesville, Okla., and in 1920 he was made assistant to the general manager. In 1921 he went with the Pierce Petroleum Corp. as vice president in charge of manufacture. He remained in St. Louis until 1926, when he joined the Marland Refining Co.

### NOW HAS 10 BRANCH STORES

The Murray Tool and Supply Co., carrying a complete stock of oil and gas well supplies and equipment, now maintain branches at Tulsa, Oklahoma City, Pawhuska, Ponca City, Seminole, Webb City, Weleetka, Yale and Maud in Oklahoma and Wink in Texas, with general offices in Cleveland, Okla.

### BRIDGEPORT MAKES CHANGES

The Bridgeport Machine Co., Wichita, Kans., has made additions to its staff of salesmen. C. H. Williams, formerly with the Oil Well Supply Co. and the International Supply Co., is working out of the Bridgeport company's Tulsa branch. G. C. Terry is now a field salesman for the Wichita store. He formerly was with International. W. W. McClure has been placed in charge of the Seminole store, replacing Felix T. Heavner, now field salesman. N. O. Boomer has been made a field salesman, working out of the Maud store and Phil Webber has been made warehouseman at Marshall, Okla.

### TRADE LITERATURE RECEIVED

The International Nickel Co., Inc., New York, has issued a 12-page folder containing an illustrated article on "D-12" and "Conquerer" engines and their use of nickel alloy steel.

"Metering Hot Charging Oil at 800 Pounds Pressure" is the title of a broadside being mailed by the Brown Instrument Co., Philadelphia, Pa.

The "Erie Meter Dial," published by the Erie Meters Systems, Inc., Erie, Pa., is devoted to promotion of meter pumps manufactured by the company.

The American Manganese Steel Co., Chicago Heights, Ill., is sending out bulletins describing new applications of its products, including drag chains, slide valves, wheels, crusher jaws and dragline buckets.

Chicago pneumatic portable compressors, gasoline-engine driven, are now made in five sizes, described in detail in Bulletin 797, just issued by the manufacturer, the Chicago Pneumatic Tool Co., New York.

Bulletin 121, issued by the Connersville Blower Co., Connersville, Ind., describes the general operating features of Victor rotary positive blowers and names processes to which the blowers have been applied.

The Guiberson Corp., Dallas, Tex., is mailing a pamphlet covering the Guiberson type E and type A swabs. Type E is a 2-cup unit and type A 3-cup. The pamphlet describes and illustrates the principle of operation.

## CROWN-BLOCK BEARING RUNS CONSTANTLY IN OIL BATH

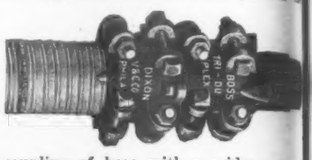
With the Dunham crown-block bearing, oiling is eliminated with the exception of a single application when the drilling operations begin. It is said that in many cases where the Dunham crown-block bearing was inspected after having been in use for 60 days or longer, it was found to be well lubricated still, with no appreciable wear on the bushing. Dunham bearing bushings are made of high-quality bearing bronze, split, and the halves are interchangeable.

The bearing clamps to any type of I beam and is adjustable to any position. This feature permits true alignment, eliminates wearing of grooves, whipping of line and danger of line jumping out of pulley during operation. The bearing can be adjusted as close to the pulley hub as needful. The Dunham crown-block bearing literally runs in a bath of oil, which is supplied at all times during its operation in ample quantity to keep it friction free. A reserve chamber introduces a sufficient supply of oil to lubricate the bearing should the primary chamber, from any cause, fail to function. Removal of the necessity for frequent trips to the crown block eliminates to that extent the danger of injury to workmen.

The Dunham oil-encased bearings for crown blocks and pitmans are distributed in Oklahoma by the Tuttle-Stow Sales Co., Inc., Cushing; in Texas by the Longheart Supply Co., Fort Worth, and in Kansas by the Houston-Dowdy Lumber Co., Wichita. These products are to be handled soon in Arkansas, Louisiana and California.

## ROTARY HOSE COUPLING HAS UNUSUAL FEATURES

The Boss Tri-Duplex rotary hose coupling has a six-piece steel clamp with staggered bolts, giving an enormous evenly distributed clamping pressure around the entire circumference of the hose. Sufficient takeup is assured by the four dovetailing fingers which are also staggered in such a manner that they always overlap, and this further permits




coupling of hose with a wider range of outside diameter.

Better to effect a seal this coupling is made with a front clamp, grooves on the inside to conform with the two half round collars on the stem, and a back clamp, both anchored together. This construction permits uniform pressure of the clamp to the hose where most needed and precludes tilting of clamp. The three extending fingers on the front clamp grip the collar on stem and further anchor the coupling to hose. This coupling is manufactured by the Dixon Valve & Coupling Co., Philadelphia, Pa.

## BETTIS PROTECTORS FOR TUBING NOW ON MARKET

The Patterson-Ballagh Corp., Los Angeles, Calif., manufacturer of Bettis protectors for drill pipe, now in use in many oil fields, is putting on the market Bettis tubing protectors and Bettis tubing couplings. These new devices are said to be the result of long study, research and field testing. They are used on tubing couplings to prevent contact with the casing.

A special rubber has been developed for tubing service and the protector is slipped into a dovetail groove in the special tubing coupling. It is wedged into the groove under tension and does not tear out. It embodies the same wear resistance as the larger Bettis protectors used on drill pipe.

### BRAND ELECTED DIRECTOR

W. H. Brand, vice president of the First Wisconsin Co., Milwaukee, Wis., has been elected a director of the Interstate Drop Forge Co., Milwaukee. The directors re-elected are Edgar L. Wood, W. C. Frye, C. R. Messinger, W. J. Nugent, Clifford F. Messinger, L. S. Peregoy and C. E. Stone. The Interstate Drop Forge Co. specializes in the manufacture of drop forgings. A short time ago its capacity was increased 40 per cent by an addition to the building and the installation of new machines. The Interstate Drop Forge Co. is a part of an affiliated group consisting of the Chain Belt Co., Federal Malleable Co. and Sivyer Steel Casting Co., all of Milwaukee.

### PUMP HAS GUIDED PLUNGER

The Hills-McCanna Co., of Chicago, has developed a new L type proportioning pump. The feature of it is the plunger, which is guided to eliminate distortion when used in high-pressure service.

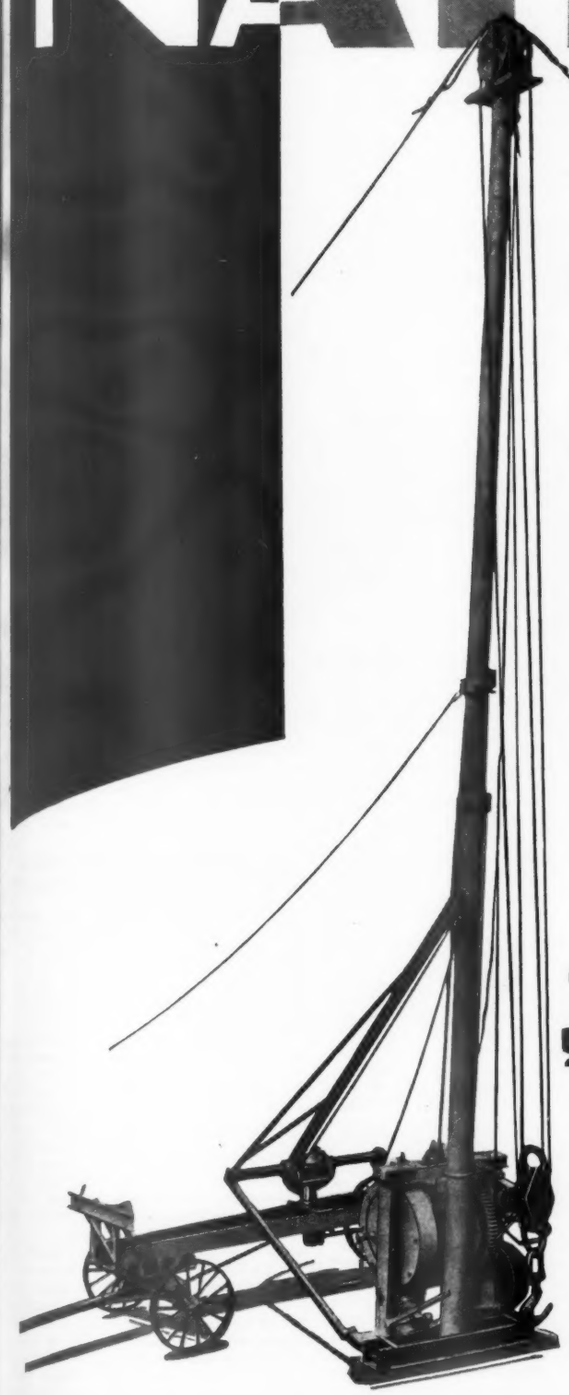
### MAKING AIRCRAFT BLOWPIPE

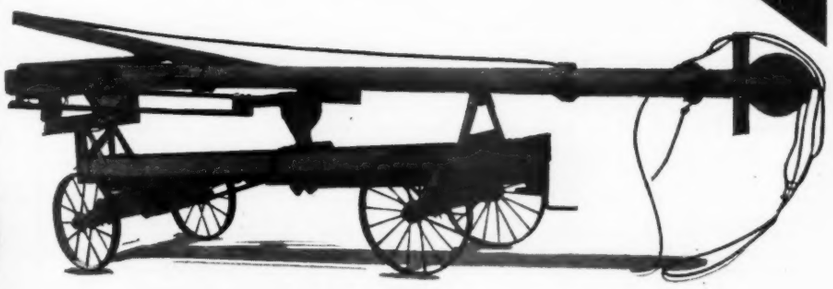
The Oxweld type W-15 aircraft welding blowpipe has been placed on the market by the Oxweld Acetylene Co., New York. This blowpipe is designed especially for aircraft fuselage welding.

# NATIONAL

## PULLING MACHINE

## Type "B"





*Mast will safely handle 20,000 pounds when properly guyed. This is equivalent to 3000 feet 2-inch tubing filled with water and 5/8-inch sucker rods, or 2000 feet of 2½-inch tubing filled with water and 3/4-inch sucker rods.*

THE
**NATIONAL SUPPLY**
COMPANIES

# Natural Gas Developments

## MUSKEGON INDUSTRIES TURN TO NATURAL GAS

MUSKEGON, Mich., Feb. 23.—Three Greater Muskegon industries have recently been added to the list of industrial customers now being served by the Muskegon Pipe Line Co. and eight others will soon be served with natural gas from the Muskegon Field by the West Michigan Consumers Co. and the Continental Motors Corp. gas lines.

Daily consumption of gas has exceeded 15,000,000 feet and is expected to be more than 20,000,000 feet a day as soon as the prospective users have been connected into the pipe line systems.

The Muskegon Traction and Lighting Co., which serves the domestic and commercial consumers, now has a daily send-out of about 1,500,000 feet.

The Michigan Pipe Line Co., which is seeking a franchise to furnish natural gas from the Muskegon Field to Grand Haven consumers, has announced a new scale of rates for large consumers which will enable the Grand Haven city light and water plant to use the natural fuel at 16 cents per 1,000 feet.

Purchase of a large supply of natural gas in the Muskegon Field at 8 cents per 1,000 feet has made possible the rate scale under which the Grand Haven company will sell 500,000 feet a day at 18 cents per 1,000; 600,000 feet at 17 cents and 750,000 feet at 16 cents per 1,000. It is estimated that the city plant will use more than 800,000 feet a day and thus will be able to take advantage of the minimum rate.

A vote on the proposed franchise will be taken March 4. C. L. Bullock, vice president of the Ottawa Petroleum Corp., and head of the Crude Oil Co. of Michigan, and H. A. Brink, secretary of both companies, are promoting the Michigan Pipe Line Co. and have made arrangements for the purchase of gas from the Muskegon Oil Corp. and its associated companies which control a large percentage of the Muskegon gas.

### COLUMBIA GAS EARNINGS

Columbia Gas & Electric Corp. reports gross earnings for the year ending December 31, 1928, of $107,195,658, an increase of $10,343,989 over 1927, or a gain of 10.6 per cent. Total net earnings and other income after operating expenses, reserve for renewals, replacements, depletion and taxes amounted to $37,993,013 compared with $32,235,706 for 1927. Net income after lease rentals, interest charges and preferred dividends of subsidiaries and interest charges of Columbia Gas & Electric Corp. was $29,155,584 an increase of $5,889,831 or 25.3 per cent over 1927. The annual dividend requirements on 947,168 shares of 6 per cent preferred stock outstanding at December 31, 1928, were $5,683,008. This is equivalent to earnings in 1928 of $6.96 per share on the common stock.

### EDMONTON GAS EXPANSION

CHATHAM, Ontario, Feb. 23.—Northwestern Utilities, Ltd. of Edmonton is planning to spend $250,000 this year in improvements and extensions, including the drilling of two new gas wells in the Viking Field. Besides this drilling extensions will be made to the distribution system, and the lines serving Glenora will be enlarged. The company is also considering duplicating part of the main line from Viking and installing compressors. This program, if adopted, will cost between $300,000 and $500,000. The company now has 15 producing wells in the Viking Field with an aggregate open flow of 80,000,000 feet a day.

## HELIUM PLANT AT SONCY TO BE READY MARCH 1

The United States Government's new helium plant at Soncy, 6 miles west of Amarillo, Tex., will be ready for operation by March 1, and it is probable continuous operation will begin by April 1. A staff of 75 officials and workmen will be employed.

A large staff of officials, scientists and engineers has been associated with the construction of the Soncy plant, some of whom will remain in charge. They include: R. A. Cattell, chief of the helium division, headquarters at Washington; C. W. Seibel, co-designer of the plant and supervising chemical engineer, headquarters in Washington; C. F. Cook, supervising engineer and co-designer, now at Fort Worth; F. A. Vestal, engineer in charge, under whose direction the plant will be operated; G. E. Erlandson, assistant to Mr. Vestal; E. P. Hayes, associate gas engineer and former superintendent of the Fort Worth plant; W. M. Deaton, chief chemist, in charge of the laboratory of the Bureau of Mines; E. S. Burnett, physicis, doing research work; E. A. Hudson, office manager and purchasing agent; L. E. Bugby, local office manager; C. T. Murray, civil engineer; E. N. Armstrong, field geologist; A. Cattell, helium engineer; H. K. Smith, master mechanic, and H. J. J. Thierson, chief engineer.

## SECTIONAL GAS SUPPLY DISCUSSED IN ENGLAND

An investigation of the technical and economic aspects of an area gas supply system is proposed in England. Practicability of an inner-connecting network of pipe lines fed by a number of gas works, coke ovens, etc., in relation to a limited area such as that between the Humber and Liverpool and between Leeds and Birmingham, is to be investigated, Trade Commissioner Homer S. Fox, London, reports.

Such an investigation, among others, was recommended last September after some two years of inquiry on the general subject of more economic utilization of fuels in Great Britain. Considerable attention was given in this report to the area gas supply systems in operation in Germany, and apparently the committee were of the opinion that possibilities in this direction might be developed in Great Britain. The same subject was also discussed at some length at the World Power Fuel Conference held a few months ago in London.

### GALVESTON GAS RATE

The City of Galveston has passed an ordinance embodying the result of negotiations under way for several months with the Texas Cities Gas Co. in regard to rates covering the distribution of natural gas. The new rates provide for a service charge of 75 cents per meter per month, a form of rate not heretofore enjoyed by the company, as well as a scale of prices based on amounts of gas consumed. The gas is purchased from the Houston Pipe Line Co.

### HOUSTON GULF GAS SALES

HOUSTON, Tex., Feb. 23.—Natural gas sales of the Houston Gulf Gas Co. for the year 1928 totaled 18,820,368,000 feet, an increase of 14.6 per cent over sales of 1927, which were 16,062,040,000 feet, according to a report just compiled by the company. The company has 197 miles of trunk lines. The company, through the Houston Gas & Fuel Co., distributes natural gas to Houston domestic consumers and to numerous industrial users.

## CALIFORNIA GAS RATES FOLLOW FUEL OIL DOWN

SAN FRANCISCO, Calif., Feb. 23.—Deductions in the price of manufactured gas to consumers in California amounting to approximately $1,000,000 during the year 1929 have been ordered by the State Railroad Commission. The price cuts will range from 3 cents to 9 cents per 1,000 feet depending on location and other conditions. The gas cut order followed reductions in price of fuel oil. The commission felt the price of gas should follow.

Charles Grunsky, gas and electric engineer of the commission, is directing the work of preparing the decisions which will place the new reduced rates in effect 30 days subsequent to the date of oil reductions to the utilities affected.

The ratio used by the commission in adjusting artificial gas rates to fluctuations in the price of fuel oil is approximately 3 cents for 1,000 feet of gas for each 10 cents change in the price of fuel oil. There is some variation in this ratio, due to differences in plant efficiencies, and other considerations.

Such reductions resulting from lowered fuel oil cost, which were made during the calendar year of 1928 have lowered gas rates to the extent of more than $300,000 per year. This brings the total gas rate reductions both for natural and manufactured gas, placed in effect during 1928, to over $1,050,000 per year.

### CALGARY GAS SUPPLY

CHATHAM, Ontario, Feb. 23.—Officials of the Calgary Gas Co. report that the natural gas demand for that city established a new record this winter when a day's peak of 53,000,000 feet was reached. The figure was within 2,000,000 feet of the estimate made by gas company officials last fall, and 5,000,000 feet in excess of the previous high of 48,000,000 feet recorded last winter. Of the 53,000,000 feet, some 37,000,000 feet came from Turner Valley, the remainder being from the Bow Island and Foremost fields, which are normally held in reserve.

### GAS FOR DAYTON, TEXAS

HOUSTON, Tex., Feb. 23.—Dixie Gas & Fuel Co. of this city has started preparatory work to laying gas mains in Dayton, Tex., the Dayton city council recently having granted a franchise to the Moody-Seagraves company to distribute natural gas there. The gas will be supplied from the new line laid by the Dixie Gulf Gas Co., extending from a connection with the company's trunk line at Houston through Barbers Hill, Liberty and Dayton.

### HUNTER SUCCEEDS RAYMOND

HOUSTON, Tex., Feb. 23.—M. W. Hunter has been appointed acting general manager of the Houston Gas & Fuel Co., filling a vacancy made by the resignation of W. A. Raymond. A permanent general manager will not be appointed until a meeting of the board of directors set for March 1. Mr. Hunter has been assistant to O. R. Seagraves, president of the United Gas Co., Houston. Mr. Raymond is resigning after 24 years' service with the company.

### KANSAS CITY GAS SUPPLY

Frank Parish, president of the Missour-Kansas Pipe Line Co., states that seven new gas wells have been brought in, one producing 1,350,000 feet per day, one 1,200,000 feet and a third 1,000,000 feet. The wells are located on the company's property at Banister Ridge, about 5 miles from the Kansas City limits.

## LOUISIANA NATURAL GAS CONSUMPTION IN 192

SHREVEPORT, La., Feb. 23.—Of the 3,977,878,818 cubic feet new natural gas production added during 1928 to that already available from Louisiana gas fields, there was metered and consumed during the past calendar year 232,631,140,000 feet, compilations by the State Department of Conservation offices here show. This is a monthly average of 19,385,928,000 feet, consumed by industrial, commercial and domestic consumers in Texas, Louisiana and Arkansas from Port Arthur, New Orleans and Houston on the south to Little Rock, Ark., on the north and from Dallas on the west to the Mississippi River. This year the territory will be extended to St. Louis and to western Mississippi towns and Memphis, Tenn., and possibly to Birmingham, Atlanta and Chattanooga. The year's consumption was an increase of 51,461,347,000 feet over that of 1927.

Of this vast consumption 17,815,570,000 feet less than half was taken by carbon plants in the Monroe Field from which most of the State's production came. Consumption for this purpose is estimated by the department at 98,500,000,000 feet, or 42 per cent. This is in marked contrast to the 75 or 80 per cent burned into carbon three years ago and is indicative of the effect of the State's policy of limiting the pull on any one well to a certain percentage of its open flow (gauged semiannually) based on the area of the tract from which the well is to pull and the center of which is the location of the well. This permissable ranges from 9 per cent on a 5-acre tract to 24 per cent on a tract of 160 acres or more. The decrease is attributable in part, however, to migration, several of the manufacturers having dismantled their plants in whole or in part and moved to the West Texas fields where there are no restrictions on the consumption of gas for carbon making.

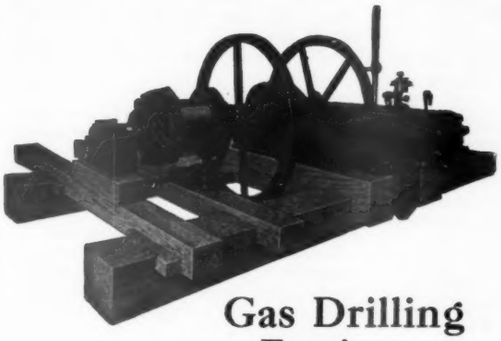
## GAS LINE TO MINNESOTA MAY FOLLOW DAKOTA LINE

CASPER, Wyo., Feb. 23.—Interest has been renewed in the proposed gas line across Montana and North Dakota into Minnesota. The laying of a line from the Cabin Creek Field to the Black Hills in South Dakota has aroused much interest and this new line, it is now said, is to start from the Sunburst Field and deliver gas in the State of Minnesota and to cities and towns along the route. Estimates as to the reserve in the Sunburst Field place it at nearly 12,000,000,000 feet. The Montana Dakota Gas Co. now operating in eastern Montana has secured a right of way for a part of this proposed line, this right of way to be laid during the coming summer and to reach to Fargo, N. Dak., through Bismarck. The same company also announces it will lay a gas line from Chester in Liberty County, to Glasgow, in Valley County. This project would mean a pipe line about 175 miles in length and would be the first link in a line from Sunburst to Minnesota. It is pointed out further that when the Sunburst gas reserve is exhausted, the Turner Valley gas fields of Canada can be drawn upon.

### GAS FROM BARBER COUNTY

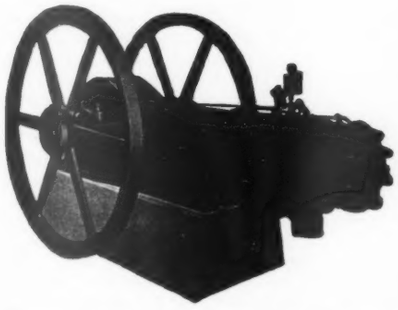
Harris & Haun will lay a gas line from Woodward, Okla., to Hoisingtoon, Kans., to dispense gas from the Shaffer gas wells in Barber County, Kansas. Gas franchises in a number of small towns in Woodward and Woods counties, Oklahoma, and in Barber, Pratt, Stafford and Barton counties, Kansas, have been acquired. Gas will be sold to towns along the new line, including Waynoka and Alva, Okla., and Great Bend and Pratt, Kans.

# OIL AND GAS ENGINES



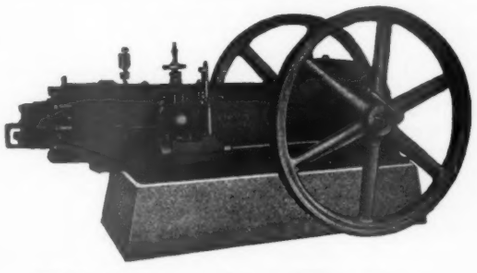
## Gas Drilling Engine

This is the Franklin gas drilling engine. 25-30 H.P., 40 H.P., 50 H.P. Each can be mounted on the same block without as much as the change of a bolt. These machines are fast, and especially flexible. They will stand the hardest wear.



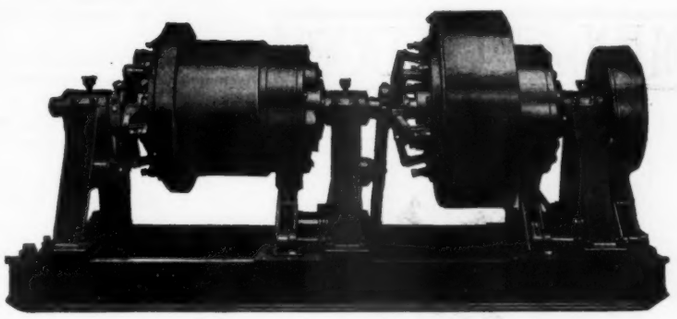
## Gas Pumping Engine

Where gas is available, use a Franklin gas pumping engine. It is interchangeable with the Franklin gas drilling engine, using the same block and without changing a single bolt.



## Oil Pumping Engine

Franklin Oil Pumping Engines in 30, 40 and 50 horsepower. Can be equipped with reverse or one way clutch. And don't forget the Franklin Construction keeps out sand and grit and eliminates valve grinding.



The type 2-SD drilling clutch has two speeds in either direction—speed change made when either idling or running at any speed. Has twin discs of steel lined with the best grade of friction lining. Pulley or sprocket wheel, clutch 100% Roller Bearings. In reversing, the shaft is reversed. Spider, levers, brackets, and all underrigging of steel and entire clutch is mounted on a steel base. 2-SD will pull the largest bailer without faltering.

The B.G. Clutch is on the same principle as the 2-SD. It is lighter—has one speed in forward and reverse. Permits use of larger diameter pulley for lower clutch speed.

Let us send you information about Franklin reverse clutches.

**FRANKLIN VALVELESS ENGINE COMPANY**
**Franklin, Pa.**

# MEN KNOWN IN OILDOM

**Ernest J. Nicklos**

Born in Petrolia, Ontario, Canada, in 1880, almost in the shadow of an oil refinery; working at oil field and refinery jobs in his boyhood, and then migrating to distant oil-producing regions of the globe, Ernest J. Nicklos, new vice president and director of the Marland Production Company, has spent more than 30 years in the petroleum industry, with a varied experience in production work. He joined the Marland organization January 1, 1929, after six years with The Texas Company as division manager. His father, Charles Nicklos, spent 48 years in the oil business, 27 in the service of one company.

When Mr. Nicklos was 13 the family moved to London, Ontario, where he worked at oil jobs during summer vacations. He was 21 when his father went to Galicia to build the first modern refinery in Poland. The son went, too, getting a job with the same firm, Bergheim & McGarvey, as a production worker. After several years here he was transferred to Croatia, Jugoslavia, where he was employed for two years.

In 1907 Mr. Nicklos went to Mexico as manager of the Anglo-Mexican Oil Fields, Ltd. Two years later he was made general manager of the Anglo-Mexican & Tampico Oil, Ltd., the parent company. In 1913 he became a drilling contractor in Mexico on his own account. In 1923, D. J. Moran, then vice president in charge of production for The Texas Company, induced Mr. Nicklos to assume charge of Oklahoma, Kansas and Kentucky production for The Texas Company. While serving thus as district manager Mr. Nicklos resided in Tulsa.

After Mr. Moran, late in 1928, resigned from The Texas Company to become president of the Marland Oil Company, Mr. Nicklos was chosen vice president of the Marland Production Company. He is national chairman of the Rotary standardization committee of the American Petroleum Institute, a member of the Seminole shut-down committee and a director of the Firt National Bank of Tulsa. Besides his native tongue, he speaks German, Polish and Spanish. With his wife and two children he still resides in Tulsa, but it is expected that later this year he will move to Ponca City, Okla., headquarters of the Marland enterprises.

# PERSONAL PARAGRAPHS

H. B. Rheuark, of the Shreveport Chemical Company, is visiting the Gulf Coast fields.

* * *

H. H. Brownell, president of The Brownell Corp. of Sioux, Falls, S. Dak., visited in Tulsa several days last week.

John L. McMeans, Fort Worth, Tex., independent operator, is confined to his home by illness.

* * *

James B. Templeton, geologist of Tulsa, has returned from a three months' trip in Venezuela.

* * *

D. C. Morrow of Kansas City, Mo., president of the United Iron Works, Inc., was a recent Tulsa visitor.

* * *

H. R. Shidel, of the Eagle Picher Lead Company, Dallas, Tex., has been visiting the Mid-Continent fields.

* * *

Hoke Martin and Victor M. Coates, representatives of The Mathieson Alkali Works, Inc., are making a trip throughout the Mid-Continent.

* * *

Carl H. Beal, A. H. Heller and Grant Corby have opened offices in the Quinby Building in Los Angeles as consultants on petroleum production.

* * *

O. R. Seagraves, president of the United Gas Company, Houston, Tex., has returned to his office following a short trip to the East on business.

* * *

L. P. Lockridge, New York, manager of domestic lubricating oil sales for Sinclair Refining Co., visited sales offices of the company at Houston, Tex.

* * *

J. B. Lovejoy, district geologist for the Gulf Production Company in the Wichita Falls, Tex., district, was a recent business visitor in Fort Worth.

* * *

William Kelly, for many years active in the Kern County, California, fields with various companies, is now superintendent for the Pacific Eastern Company.

* * *

R. D. Parker, chief supervisor, oil and gas division, Railroad Commission of Texas, has returned to his headquarters in Austin, following a business trip to North Texas.

* * *

H. N. Pardee, in charge of production for The Texas Company in West Texas, has returned to his Fort Worth headquarters following a trip to Lea County, New Mexico.

* * *

Wesley Gish, manager of the land department for the Sinclair Oil & Gas Co. in West Texas and New Mexico, is back at his Fort Worth headquarters following a trip to Tulsa.

* * *

S. F. Shaw, of the Carter Oil Company, has returned to Tulsa from a five months' trip to Poland, Italy and Rumania, where he has been engaged in gas-lift investigations.

* * *

J. S. Polhemus, district land man for Amerada Petroleum Corporation at San Angelo, Tex., for the past year and a half, has been transferred to the company's main office at Tulsa.

* * *

Jack B. Kennedy, head of the land and geological departments of Texas Pacific Coal & Oil Company in Oklahoma, has resigned, effective March 1, and will open an office in Oklahoma City.

* * *

J. Carl VonBibra, president of the Exeter Oil Company, recently left Los Angeles for a trip abroad to be gone about four months. He is expected to return to Los Angeles early in June.

* * *

Frank P. Graham, division superintendent of production for Skelly Oil Company, has returned to the office at El Dorado for a short stay. He is in charge of Panhandle production, with headquarters at Pampa.

* * *

W. D. Braithwaite and A. E. Holley of London, England, officials of the Anglo-Persian Oil Company, and T. Rieber, vice president of The Texas Company, New York, inspected refineries in the Gulf Coast, returning from there to New York.

* * *

K. B. Mills was recently transferred to the Arkansas Valley Gas Company at Arkansas City, Kans., as superintendent. Mr. Mills was employed in the operating department at Arkansas City in March, 1922. Later he was moved to El Dorado as engineer.

E. T. Williams was a recent visitor to Casper, Wyo., from Amarillo, Tex. Mr. Williams was founder of the E. T. Williams Oil Company, but for some time has been operating in Texas.

* * *

A. C. Rubel, superintendent of the Union Oil Company at Dominguez Hill, has been promoted to be chief production engineer and moved to the general offices in Los Angeles. Roy N. McBride, for several years Mr. Rubel's assistant at Dominguez Hill, is now superintendent.

* * *

J. J. DeSize, efficiency engineer of The Texas Company's marine department, was in Los Angeles recently, arriving at the harbor there on board the tanker New Jersey, one of two boats which The Texas Company has equipped to reduce evaporation losses and eliminate fire hazards.

* * *

Fred F. Doyle, well known in Taft, Calif., recently resigned as superintendent of the Midway Gas Company on the west side of the San Joaquin Valley, in order to become superintendent of pipe line construction for the Pacific Gas & Electric Corporation. The new company which Mr. Doyle has joined is constructing a 250-mile natural gas line from Buttonwillow in Kern County to the San Francisco Bay region.

* * *

T. J. Heard has been appointed general auditor of the Arkansas Natural Gas Corporation at Shreveport, La., succeeding E. N. Watkins, recently made secretary on the resignation of Jos Zeppa. Mr. Heard was secretary-treasurer of the Reserve Natural Gas Company when that company was absorbed in the Doherty-Benedum & Trees merger and continued with it when it became an Arkansas Natural Gas property.

* * *

Clem S. Clarke, representative in the Shreveport, La., division, for the Halliburton Oil Well Cementing Company and Halliburton drill stem testing system, was elected vice president of the Brewster Company, successor to the Oil City Iron Works Company, of Shreveport at the annual meeting. H. C. Brewster is president of the company and A. O. Price secretary-treasurer.

* * *

T. S. Cooke, refinery manager for the Lago Oil & Transport Company, has sailed for a visit to the company's Venezuelan properties. Mr. Cooke will superintend the completion of Lago company's new refinery on the island of Aruba, Dutch West Indies. This plant, with a capacity of more than 100,000 barrels of crude daily, is scheduled to go into operation in about 30 days.

* * *

S. M. Mosher, head of the Signal Oil & Gas Company of Los Angeles, was recently elected president of the Associated Life Insurance Company of California. Since founding the Signal Oil & Gas Company seven years ago Mr. Mosher has devoted his energies to the upbuilding of one of southern California's outstanding gasoline companies.

* * *

A. M. Kelley, C. B. Garretson and J. C. Graves have been elected vice presidents of the Richfield Oil Company. Mr. Kelley, formerly manager of manufacturing, will be vice president in charge of manufacturing and transportation. Mr. Garretson, heretofore assistant manager of sales, will be in direct charge of all refined oil sales, while Mr. Graves, previously assistant manager of sales, will assume complete charge of the fuel oil and asphalt division. All three of the new vice presidents have been with the Richfield Oil Company for a number of years.

* * *

L. E. Porter has been appointed chief geologist of the Richfield Oil Company, succeeding W. E. Dunlap, who was recently promoted to manager of production. Mr. Porter is a native of New Mexico and a graduate of Stanford University, matriculating in 1921. He worked in the Rocky Mountain area during 1922 and in 1923 entered the employ of the city engineer's office at Long Beach, Calif. In 1924 Mr. Porter became affiliated with the Marland Oil Company and in 1925 was appointed resident geologist of the Richfield Oil Company at Fellows in the San Joaquin Valley. In February, 1927, he was brought to Los Angeles as valuation engineer for the Richfield Oil Company and in July, 1928, was made assistant chief geologist.

## SOUTHWEST TEXAS FIELDS

(Continued from Page 54)

Lynch, Dorothy Benton Survey, is abandoned dry at 2,290 feet making sulphur water.

**Refugio County**

Benedum & Trees-William F. Morgan's No. 1 Rooke has been abandoned dry at 5,382 feet.

**Duval County**

Magnolia Petroleum Co.'s No. 2-A Hahl, Survey 51, has been abandoned dry at 5,362 feet.

**Starr County**

The Texas Company's No. 1 Ofelia Resendez, Porcion 69, Block 174, is dry and abandoned at 3,737 feet.

**Webb County**

Edouard Raymond's No. 1 Schmellzer, Share 2, J. Galan grant, location only, has been abandoned.

Newton Drilling Co.'s No. 4 Bruni, Newton tract, Block 56, at 2,175 feet tested a small amount of gas and salt water and has been abandoned.

Edward St. Albans' No. 4 Holbien, Share 3, Block 7, has been abandoned dry at 2,165 feet.

A. J. Major has abandoned location made for No. 1 Holbien in Share 3, Block 6.

### NEW LOCATIONS MADE

**Atascosa County**

W. R. Hamilton's No. 15 R. T. Hughes, J. Sharp Survey No. 518, in Somerset Field, is skidding rig over from No. 14 about 300 feet east.

**Bastrop County**

Atlantic Oil Producing Co.'s No. 4 Yoast, A. Garcia Survey, is location.

Gulf Production Co.'s No. 2 Yoast, A. Garcia Survey, is location.

**Bexar County**

Schimmel Production Corp.'s No. 2 Frees, C.E.P.I.&M. Survey, Block 2, is location, 679 feet north of No. 1.

**Caldwell County**

Detex Oil Co.'s (M. O. Rayor) No. 1 D. C. Robinett, M. G. Duke Survey, is location 160 feet to center of southwest lines.

Fleming Oil Co.'s (Hill and others) No. 1 J. H. Fleming has derrick up.

Humble Oil & Refining Co.'s No. 1-A J. R. Miller, James Hinds Survey, 150 feet to west line and 1,050 feet to south line, has derrick up.

Humble Oil & Refining Co.'s No. 1-B J. R. Miller, has derrick up.

Humble Oil & Refining Co.'s No. 7 W. O. Allen has derrick up.

Humble Oil & Refining Co.'s No. 8 W. O. Allen has derrick up.

Humble Oil & Refining Co.'s No. 7-A Moses & Baggett has derrick up.

Humble Oil & Refining Co.'s No. 2-B Moses & Baggett has derrick up.

Humble Oil & Refining Co.'s No. 3-B Moses & Baggett, S. Shup Survey, 150 feet to east line and 1,050 feet to south line, has derrick up.

Humble Oil & Refining Co.'s No. 1 Wright, has derrick up.

Gulf Production Co.'s No. 2 J. D. Wright, 300 feet north of No. 1, has set surface casing.

Gulf Production Co.'s No. 3 J. D. Wright is rigging up.

Gulf Production Co.'s No. 4 J. D. Wright, 300 feet north of No. 2, is location.

Gulf Production Co.'s No. 5 J. D. Wright has derrick up.

Gulf Production Co.'s No. 5 R. W. Carter, 300 feet south of No. 1, has derrick up.

Gulf Production Co.'s No. 4 W. O. Allen, 300 feet east of No. 3, has derrick up.

Gulf Production Co.'s No. 6 M. J. Tiller, 300 feet east of No. 5, is rigging up.

Gulf Production Co.'s No. 7 M. J. Tiller, 300 feet east of No. 6, has derrick up.

Shell Petroleum Corp.'s No. 7 F. Tiller, 300 feet west of No. 5, is rigging up.

Shell Petroleum Corp.'s No. 1 W. L. Smith is location.

Shell Petroleum Corp.'s No. 3-B R. W. Carter, 300 feet north of No. 2, is preparing to abandon location.

Towns & Porter's No. 5 Hickman, Gerren Hinds Survey, 300 feet east of No. 4, and 150 feet to north line, is rigging up.

**Jackson County**

Wright Brothers' No. 8 Drushell is rigging up in Edna Field.

**Maverick County**

Rycade Oil Co.'s No. 4 Chittim, 20 miles east of Eagle Pass, is digging cellar.

**Nueces County**

R. & G. Corp.'s No. 1 Roberts is location.

R. & G. Corp.'s No. 1 Emily Wright Perkins, W. W. Wright Survey, is location 150 feet to west line and 1,920 feet to south line.

Pearson and others' No. 1 Bluntzer, Block 3, northwest corner, is location north of Agua Dulce Field.

Southern Crude Oil Purchasing Co.'s No. 1 Cliff, Section 197, Palo Alto, is location 450 feet to south and east lines.

R. & G. Corp.'s No. 1 Ragland is location.

**Refugio County**

Benedum & Trees' No. 4 Claude Heard is location 600 feet south of No. 3.

Saxet Gas Co.'s No. 6 Claude Heard is location 600 feet south of No. 4.

**Duval County**

Humble Oil & Refining Co.'s No. 20 Kohler, Humble Field, is location.

Magnolia Petroleum Co.'s No. 5-B Hahl, Survey 51, is located 3,681 feet to east line and 150 feet to south line and is drilling at 300 feet.

**Jim Hogg County**

A. L. Kitselman's No. 1 Holbien, Share 3, Survey 3, Block 9, located 450 feet to north line and 150 feet to west line has its derrick up.

**Starr County**

U. S. Gas & Oil Co.'s No. 1 Kelsey, Porcion 76, Block 11, located 1,500 feet to north line and 500 feet to west line, has derrick up.

**Webb County**

O. W. Killam's No. 6 Bruni, Survey 3, has been spudded in.

**Zapata County**

South Texas Production Co.'s No. 4 Jennings, Cerrito Blanco grant, 6,900 feet to southeast lines and 8,300 feet to southwest lines, at 135 feet showed oil and salt water and is drilling at 200 feet.

**Humble Field—Duval**

Humble Oil & Refining Co.'s (Reiter-Foster) No. 12 Kohler, Survey 403, located 1,485 feet to south line and 165 feet to east line, at 1,820 feet bailed some gas and salt water; No. 14 Kohler, Survey 396, located 495 feet to north and east lines, is rigging up; No. 15 Kohler, Survey 401, is location 825 feet to east line and 165 feet to north line; No. 16 Kohler, Survey 144, is location 165 feet to south and west lines; No. 17 Kohler, Survey 399, is location 165 feet to north and west lines; No. 18 Kohler is location; No. 19 Kohler, Survey 424, located 165 feet to north and west lines, is rigging up.

**Driscoll Field**

Robert Driscoll's No. 14 Driscoll, Survey 488, located 2,750 feet to east line and 550 feet to south line, at 2,794 feet tested gas, then oil and bottom of drill stem showed salt water.

**Schoolfield-O'Byrne Pool**

Magnolia Petroleum Co.'s No. 4-B Hahl, Survey 61, located 150 feet to south line and 2,481 feet to east line, at 2,332 feet made 10 bbls. S. & O. Oil Co.'s No. 2 Bowe, Survey 250, Block 21, located 220 feet to east line and 660 feet to south line, tested small amount oil and is coring deeper; No. 2 Hahl, Survey 250, Block 22, is location 220 feet to north line and 960 feet to west line; No. 3 Hahl, Survey 250, Block 22, is location 220 feet to north line and 660 feet to west line. Onyx Oil Co.'s No. 4 Krauter, Survey 250, Block 20, located 220 feet to south and west lines, at 2,320-33 feet tested little oil and is coring deeper.

**Henne-Winch & Fariss Field**

A. L. Kitselman's No. 1 Lopez, Survey 255, Block 6, located 289 feet to north line and 300 feet to west line, is drilling at 570 feet. The Texas Company's No. 1 D. Vela, Survey 582, Share 4, located 1,300 feet to west line and 150 feet to south line, is rigging up.

**Randado Pool—Jim Hogg**

Magnolia Petroleum Co.'s No. 41 Merchants State Bank, Survey 415, located 150 feet to north and east lines, is drilling at 3,560 feet. Randado Oil Corp.'s No. 33 Palacious, Survey 291, Block 15, located 150 feet to south line and 450 feet to west line, has sand at 1,276-82 feet; No. 34 Palacious, Survey 291, Block 3, located 150 feet to north line and 1,050 feet to west line, is drilling at 600 feet.

**Schott Field—Webb**

Livingston & Payne's No. 1 Guerra-Ochoa, Survey 58, located 917 feet to east line and 497 feet to south line, is moving on.

**Albercas Field**

Sun Oil Co.'s No. 12-A Yeager-Strohman, Share 5, located 4,675 feet to north line and 150 feet to west line, has sand at 1,153-55 feet and is standing. Magnolia Petroleum Co.'s No. 14 Yeager-Strohman, Share 5, located 1,400 feet to north line and 575 feet to east line, at 2,166 feet made 75 bbls.; No. 15 Yeager-Strohman, Share 5, located 900 feet to north line and 575 feet to east line, is rigging up.

Rycade Oil Corp.'s No. 8 Yeager-Strohman, Share 5, located 1,950 feet to north line and 150 feet to east line, is standing at 2,145 feet. A. M. Major's No. 1 Holbien, Share 3, Block 6, is located 150 feet to north and east lines. Edwards St. Alban's No. 4 Holbien, Share 3, Block 7, located 150 feet to north and west lines, is drilling at 2,125 feet and losing returns from 1,620 feet. Newton Drilling Co.'s No. 4 Bruni, Block 56, located 480 feet to north lines and 250 feet to west lines, has sand at 2,165-67 feet.

**Aviator or Bruni Tracts**

Aviator Gas Co.'s No. 2 Bruni, Survey 2,083, is location 1,120 feet to east line and 1,170 feet to south line.

**Carolina-Texas Pool**

C. R. Miller's (Miller-Daniels) No. 1 de la Garza, Survey 48, Block 47, located 150 feet to north and east lines, is drilling at 2,330 feet. W. R. Shankle's No. 1 Webster, NE SE Survey 684, located 150 feet to south and west lines, is drilling at 2,900 feet. The Texas Company's No. 1 Benavides, NW SE Survey 683, located 150 feet to north and west lines, is drilling at 500 feet.

**Andrews Field**

J. M. Watson's (Watson and others) No. 2 G. Benavides, Survey 11, Block 14, located 150 feet to southeast and southwest lines, is coring at 1,627 feet.

**Magnolia-Cole Field**

Cole Petroleum Co.'s No. 67 Benavides, Survey 412, Block 12, located 313 feet to east line and 160 feet to north line, is standing at 38 feet. Houston Oil Co.'s No. 4-D Benavides, Survey 753, Block 13, is location 160 feet to south line and 822.5 feet to east line; No. 17-D Benavides, Survey 753, Block 5, located 160 feet to south and west lines, is location; No. 19-D Benavides, Survey 753, Block 5, is location 660 feet to east line and 160 feet to south line, has sand at 2,337-39 feet and set casing.

Magnolia Petroleum Co.'s No. 1 Benavides, Survey 697, Block 10, is location 150 feet to north and east lines; No. 1 King-Benavides, Survey 694, Block 12, is location 150 feet to south and east lines; No. 1 J. G. Valdez, Survey 754, Block 15, is location 150 feet to south and west lines.

**Cole Gas Field**

O. W. Killam's No. 4 (L) Bruni, Survey 5, Block 2, 150 feet to northwest lines and northeast lines, is rigging up. J. G. Mackay's No. 1 Richardson, Survey 5, located 150 feet to north and west lines, is moving on.

**Jennings Field—Zapata**

Charles L. McCaslin's No. 1 R. Hinnant, Survey 74, located 2,390 feet to west line and 630 feet to south line, at 1,470 feet is drilling, testing small amount of gas and salt water. Killam-Duggan's No. 4 ——, Cerrito Blanco grant, 1,511 feet to northeast lines and 627 feet to northwest lines, is drilling at 1,900 feet.

**Somerset Field—Atascosa**

W. R. Hamilton's No. 14 R. T. Hughes, J. Sharp Survey No. 518, is location 565 feet south of No. 6.

**Yoast Field—Bastrop**

Judge Batts' No. 1 White is drilling at 2,100 feet and will go to the Edwards. Cranfill & Reynolds' No. 1 C. R. Daywood, Addison Litton Survey, 450 feet to NW cor., is drilling at 1,925 feet; chalk topped at 1,684 feet. Gulf Production Co.'s No. 2 Yoast, A. Garcia Survey, is location 300 feet east of No. 1; No. 1 Yoast, A. Garcia Survey, 1,593 feet to northwest lines and 150 feet to northeast lines, at 1,462 feet has been given a light shot. The Texas Company's No. 2 Yoast, A. Garcia Survey, is location 150 feet to northwest and southwest lines; No. 3 Yoast, A. Garcia Survey, is location 150 feet to northwest lines and 450 feet to southwest lines.

**Bexar County**

Schimmel Producing Corp.'s No. 1 J. Frees, C.E.P.I.&M. Survey, Block 2, is location 250 feet to east line and 829 feet to south line; No. 2 Frees is location 679 feet north of No. 1.

**Dobrowolski Field**

F. H. Eckert's No. 3 Dobrowolski, Section 52, Block 4, located 300 feet south of No. 1, is drilling in rock at 300 feet.

**Gas Ridge Field**

Medio Oil Co.'s No. 9 Cohen, 500 feet southeast of No. 7, is standing at 470 feet.

**Joe Bruner (Salt Flats) Field—Caldwell**

W. R. Alexander's No. 1 G. W. New, James Hinds Survey, 300 feet to west line, in middle north and south, is drilling at 2,280 feet. Tips de Armond's No. 2 Carter, Gerren Hinds Survey, 170 feet to west line and 147 feet to north line, is drilling at 1,005 feet and showing some gas. Buchanan and others' No. 1 Trap-Briscoe, J. B. McCearly Survey, is location 150 feet to south and east lines of lease.

J. J. Capps' No. 1 G. W. New, James Hinds Survey, is drilling at 2,543 feet in top of Eagleford, showing oil in the chalk. Cranfill & Reynolds' No. 1 Northcott, J. Radford Survey, 150 feet to northeast and southeast lines, is drilling at 1,000 feet in shale. C. E. Ellzey's No. 1 Taylor is shut down at 42 feet.

Gulf Production Co.'s No. 2 W. O. Allen, Gerren Hinds Survey, 450 feet to west line and 173 feet to south line, is drilling at 2,232 feet in Taylor marl; No. 3 W. O. Allen, Gerren Hinds Survey, is drilling at 664 feet in shale; No. 1 Graef, R. B. Jarmon Survey, 2,500 feet to east line and 150 feet to south line, is location; No. 2 Carter, Gerren Hinds Survey, 450 feet to east line and 150 feet to north line, is rigging up; No. 3 R. W. Carter, Gerren Hinds Survey, 150 feet to south and west lines, is drilling at 1,550 feet in sticky shale; No. 4 R. W. Carter, Gerren Hinds Survey, 450 feet to west line and 150 feet to south line, is drilling at 2,394 feet in chalk topped at 2,193 feet, showing oil on the ditch.

No. 4 J. J. Davis, A. Floyd Survey, 150 feet to east line and 350 feet north of No. 2, is drilling at 1,034 feet; No. 1 M. J. Tiller, Gerren Hinds Survey, 150 feet to NE cor., 150 feet to north line, is drilling at 2,247 feet in Taylor marl; No. 2 M. J. Tiller, Gerren Hinds Survey, 300 feet west of No. 1, is drilling at 2,377 feet in chalk topped at 2,279 feet; No. 3 M. J. Tiller, Gerren Hinds Survey, 300 feet west of No. 2 and 150 feet to north line, is drilling at 21 feet; No. 4 M. J. Tiller, Gerren Hinds Survey, 150 feet to south line and 275 feet to west line, is drilling at 1,875 feet in gumbo; No. 5 M. J. Tiller, Gerren Hinds Survey, 575 feet to west line and 150 feet to south line, is drilling at 2,409 feet in chalk showing oil on the ditch at 2,226 feet in top of the chalk.

No. 1 J. D. Wright, Gerren Hinds Survey, 450 feet to south line and 150 feet to west line, is drilling. Golden West Oil Co.'s No. 3 Malone, A. Floyd Survey, 450 feet to northwest and northeast lines, is drilling at 150 feet for natural gas from around 1,100 feet; No. 7 Wilson, A. Floyd Survey, is location and will drill for the shallow gas around 1,200 feet.

Humble Oil & Refining Co.'s No. 2 W. O. Allen is setting casing in the Edwards; No. 4 W. O. Allen, Gerren Hinds Survey, 300 feet east of No. 2 and 150 feet to north line, is drilling at 1,415 feet in shale and boulders; No. 5 W. O. Allen, Gerren Hinds Survey, 431 feet to north line and 760 feet to west line, is drilling at 2,416 feet with chalk topped at 2,265 feet; No. 6 W. O. Allen, Gerren Hinds Survey, 150 feet to north line and

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## New — A Ready-made Steel Warehouse — with Portable Steel Foundation

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***Speed!*** The warehouse shown above was ready for use within 21 days after receipt of order; living quarters and office one week later. Completed sections are shipped with doors and windows in place, ready to assemble, bolt together and lay roof sheets.

***Strength!*** Correctly designed frames are of strong structural steel. Sheets are heavy, corrugated for rigidity, and securely fastened to frame with aluminum rivets. Doors and windows are firmly braced. Steel foundation joists and stringers are amply strong.

***Convenience!*** A wooden floor is laid on the steel stringers. Doors fit and stay tight. Windows are Fenestra steel sash. Warehouse design provides for the utmost convenience in handling supplies, for office space, etc.

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BRADEN *Clamp-Joint* Steel Derricks save erection time and money—and are amazingly strong, tight and flexible.

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BRADEN Sectional Steel Buildings provide utmost value in steel buildings for any oil industry use.

968 feet to south line, is in shale at 1,960 feet.

No. 2-A Moses & Baggett is drilling at 2,584 feet in the Georgetown; No. 3-A Moses & Baggett, 300 feet north of No. 2, is drilling at 2,152 feet; No. 4-A Moses & Baggett, 300 feet west of No. 1, has derrick up; No. 5-A Moses & Baggett, Gerren Hinds Survey, 804 feet to south line and 150 feet to east line, is drilling at 957 feet in shale; No. 6-A Moses & Baggett, Gerren Hinds Survey, 150 feet to east line and 1,158 feet to south line, is location.

No. 1 Floy Gray, James Hinds Survey, 350 feet to south line and 350 feet to west line, is rigging up; No. 1-B Moses & Baggett, Samuel Shupe Survey, 150 feet to south line and 695 feet to east line, is drilling at 692 feet in shale; No. 5 J. B. Tiller, Gerren Hinds Survey, 300 feet east of No. 2 and 150 feet to north line, is drilling in chalk at 2,305 feet; No. 6 J. B. Tiller, Gerren Hinds Survey, 150 feet to north line and 750 feet to west line, is in shale at 1,651 feet; No. 7 J. B. Tiller, Gerren Hinds Survey, 450 feet to west line and 150 feet to south line, is moving in material for derrick.

No. 4 J. J. Davis, A. Floyd Survey, 300 feet north of No. 2 and 150 feet to east line, is drilling at 242 feet; No. 2 Floyd Tiller, Gerren Hinds Survey, is location 150 feet to north and west lines. C. E. Lange's No. 1 Kate Colding, A. Floyd Survey, 150 feet to northwest lines and 112 feet to northeast lines, at 2,716 feet is waiting for pump; No. 1 W. P. Walker, Gerren Hinds Survey, 150 feet to north and west lines, at 2,772 feet, total depth, plugged back and will try to make well in Austin chalk with casing set at 2,249 feet.

Luling Oil & Gas Co.'s No. 3 Carter is standing. William F. Morgan's No. 1 C. Malone, A. Floyd Survey, 150 feet to north and west lines, is drilling at 958 feet. Speer Well Oil Co.'s No. 1 E. L. Mayton, Hector McNeil Survey, is sidetracking at 2,810 feet. H. C. Ratcliff and others' No. 1 Cora Malone, A. Floyd Survey, 150 feet to north and west lines, is standing at 2,694 feet. Shell Petroleum Corp.'s No. 1-B Carter, Gerren Hinds Survey, 150 feet to south and west lines, has derrick up; No. 2-B Carter, is drilling in Edwards at 2,671 feet.

No. 4 R. W. Malone, A. Floyd Survey, 150 feet to C NE L, is drilling at 2,703 feet in Edwards and ready to complete; No. 3 Moses, A. Floyd Survey, 150 feet to south line and 450 feet to east line, is at 2,706 feet in Edwards, rigging up to pump; No. Moses is drilling at 2,578 feet in Del Rio and has had no chalk, Buda topped at 2,467 feet; No. 2 F. Tiller, Gerren Hinds Survey, 450 feet to east line and 150 feet to north line, has set casing at 53 feet; No. 4 F. Tiller, 300 feet west of No. 2, is drilling at 2,100 feet; No. 5 F. Tiller, 300 feet west of No. 4, is drilling in shale and boulders at 965 feet; No. 6 Tiller, Gerren Hinds Survey, 150 feet to south line and 1,050 feet to west line, is drilling at 880 feet in sticky shale.

No. 5 Malone, A. Floyd Survey, 300 feet east of No. 1 and 150 feet to south line, has derrick up. Sun Oil Co.'s No. 5 Malone, A. Floyd Survey, 150 feet to southwest lines and 1,486 feet to northwest lines, is at 2,280 feet setting and cementing casing. The Texas Company's No. 1 Carter, G. Hinds Survey, is location 150 feet to south and east lines; No. 5 Merriweather, A. Floyd Survey, 150 feet to northeast and southeast lines, has derrick up.

Turman & Brown's No. 1 Beversdorff, A. Floyd Survey, is location 150 feet to southeast lines and 131 feet to southwest lines. Victor Oil Co.'s No. 1 Briscoe, P. B. McCearly Survey, is location 150 feet to south line and 150 feet west of the road.

**Sullivan Field—Gonzales**

Cranfill & Reynolds' No. 1 J. F. Webb, Winslow Turner Survey, 150 feet to north and east lines, is drilling at 3,996 feet in the chalk which is dry. Empire Gas & Fuel Co.'s No. 1 Rover Bed, Winslow Turner Survey, 133 feet to north line and 10 feet to east line, has set surface casing and resumed drilling. Indian Petroleum Co.'s No. 1 L. F. Karnstadt, Lot 5, located 450 feet to northwest lines and 150 feet to northeast lines, has spudded in and set surface casing. The Texas Company's No. 1 J. E. Lamkin, Winslow Turner Survey, is location 800 feet to northwest lines and 200 feet to southwest lines.

**Luling Field—Guadalupe**

A. B. A. Oil Co.'s No. 4 Britton Harris is standing at 1,250 feet for repairs on boilers. Magnolia Petroleum Co.'s No. 9 W. R. Shanklin, Harriett Cottle Survey, is location in the SW cor.; No. 2 H. A. Cartier, Harriett Cottle Survey, 450 feet to northeast lines and 150 feet to northwest lines, is drilling at 2,140 feet.

**Agua Dulce Field—Nueces**

Agua Dulce Oil & Gas Co.'s No. 1 Wolcott, Section 1, located 2,780 feet to east line and 150 feet to south line, has set and cemented casing at 2,020 feet to drill in. R. & G. Corp.'s No. 1 Brown, George H. Paul Subdivision, Section 87, is location; No. 2 Ed Allen, Lot 5, Section 6, about 1,900 feet east of No. 1, is location.

**Saxet Field**

Saxet Gas Co.'s No. 5 Dunn is location 1,500 feet southwest of No. 1 Dunn, discovery gas well of the field.

**Refugio Field—Refugio**

Houston Oil Co.'s No. 5 Wilson Heard, 300 feet west of No. 4, has set surface casing; No. 1 Blanco River is location. Houston Gulf Gas Co.'s No. 4 J. M. O'Brien, Survey 4, at 2,420 feet gas blowout damaged derrick and well is now shut in; No. 1 Fox is drilling at 3,900 feet with no sand at 3,700 feet; No. 3 Fox, Lot 4, Block 5, at 3,300 feet is trying to get on the bottom. Mission Drilling Co.'s No. 3 Rogers estate is rigging up.

Union Exploration Co.'s No. 1 Holmes Heard, Tract 3, Block 8, located 150 feet to south and east lines, is drilling at 3,800 feet. Union Exploration Co.-William F. Morgan's No. 2 Leslie Adkins, Block 8, located 150 feet to south and east lines, at 3,786 feet will plug back to first showing of oil at about 3,715 feet.

**White Point—San Patricio**

Spencer & Rhoades' No. 2 J. M. Bennett, A. S. Taft Survey, is location 900 feet to west line and 400 feet to south line.

## ROCKY MOUNTAIN AREA

(Continued from Page 61)

ing Co. On February 19 the hole was bailed dry and allowed to stand overnight. The next morning 50 gallons of fluid was bailed of which about 40 per cent was oil and 60 per cent water. The water is supposed to be coming from surface seepage and not from the bottom of the hole.

**Thought Small Structure**

Again, on February 19, after being bailed dry and standing for four hours, 7 or 8 gallons of oil came into the hole. The appearance of the oil could not be explained and Johnson called in H. R. Moseley, a mining engineer, to get his opinion. The territory around the well was examined for possible leakage, but the nearest filling station was several blocks away and down a hill. The well was carefully watched while it was allowed to stand and Moseley expressed the opinion that the oil was coming from a lower horizon, probably the Fountain formation. Johnson sought expert advice on the best way to handle the hole as it is close to several buildings and offered a fire hazard should a gas flow be encountered and it was decided to run and cement a string of 10-inch casing at 60 feet. Johnson says he worked out a small structure, including probably 100 acres, the dome being closed on the north and south by faults and on the east and west by dips. Two years ago Johnson was identified with the Left Hand Oil Co. which drilled a well to the southeast of Lyons a few miles in the NW SW, Section 34-3n-70, which topped the Muddy sand of the lower Cretaceous at 1,940 feet, where a good show of oil and gas was found. His primary purpose in making the shallow test at Lyons, he asserts, was to obtain data on the possibilities in the Pennsylvanian which has never been drilled in that territory. An interesting sidelight is that a year ago the Producers & Refiners Corp. drilled a test to the Pennsylvanian on the East Ferris Dome in Carbon County, Wyoming, which showed light oil of paraffin base. That was the first time light oil had been found in Wyoming in that formation, the Pennsylvanian usually yielding black oil. Yesterday the gasoline tank of a car was emptied and filled with crude from the Lyons well. It appeared to operate with about the same efficiency as if filled with gasoline.

**Vineland Area**

Activity in the Vineland area southeast of Pueblo continues without abatement, though the discovery well on the Shaw ranch in the NW NW, Section 3-22-63, has not been tested and none of the proposed wells has actually commenced drilling. Leasing is going ahead on a large scale though the major companies still appear to be holding off. Trading in leases is yielding some substantial profits for those who got in early and large quantities of materials are being moved in. S. V. Windle has a 32-foot stub derrick up in NW cor., Section 11-22-63, and will use a motor car for power. Henry Dickason and others' No. 1 Stanbeck, NW cor., Section 19-22-63, is moving in material, and the Christy-McCormick-Franz Syndicate has a rig on the ground for its No. 1 Mannerich, NW cor. SW, Section 34-21-63. The Security Oil Trust is moving in and has contracted with F. B. Armstrong for its No. 1 Bush, SW NW NW, Section 14-22-63. Standard rigs will be moved to the C NW, Section 13-22-63, on the Vey lease, and NW cor., Section 16-22-63, in the Wilson Townsite, by the Christy-McCormick-Franz Syndicate. The Bred-Shu Oil Co. has made a location for No. 1 Randall, NW cor. SW, Section 1-22-63. About 10 other locations are reported to have been made, but rigs are not yet in sight.

The activity around Pueblo is almost certain to result in drilling in territory farther out. One test is expected to be on the Apishipa fold, 15 to 20 miles south of the Vineland well. This anticline has been known for many years and the United States Geological Survey has had a folio on it for a long time. It is also marked on the map of Colorado prepared by Dr. R. D. George, state geologist. Henry Dickason, an operator in the Florence Field, is reported preparing to make this test which will have the Pennsylvanian for its objective. It will be drilled near the town of Mustang, south of Pueblo, where the red beds lie only 625 feet below the surface. He estimates the red beds will be pierced at about 2,200 feet.

**Florence-Canon City**

Drilling operations in the Florence-Canon City district are being affected by the movement of rigs to the Vineland district near Pueblo. B. M. Mayfield and others' No. 1 Burkhart, in the townsite of Brookside, a part of Canon City, has commenced spudding. The Continental Oil Co.'s No. 4 McKenzie, SE NW, Section 1-19-70, is a completion at 2,315 feet. It made 100 bbls. the first day and is expected to settle to around 30 bbls.

The rig of the Alavier Petroleum Co. in the NE cor., Section 3-35-58, on the Branson Dome, in Las Animas County, standing for some time, recently was moved over to the C SW SW, Section 11-34-58, where it is standing. This operation is now carried under the name of E. G. Alexander.

The Uncompahgre Oil & Gas Co. is reported to have been successful in financing locally the completion of its No. 1, Section 27-50n-10, in Montrose County, and to have resumed at 1,450 feet. A new string of casing will be run. It has reached the Sundance and will be continued to the Shinarump conglomerate, expected at around 3,000 feet.

In Routt County, the Texas Production Co.'s Sundance sand test on the Tow Creek Dome in its No. 4 Belle Dennis, is delayed at 4,120 feet waiting for connections. At that depth it had a hole full of water.

On the Iles Dome in Moffat County, the Midwest Refining Co.'s No. 7-M Parkinson, NW NW, Section 23-4n-92, being deepened in the Morrison sand, is drilling at 3,330 feet in gray green sandy shale with 1,800 feet of oil in the hole. The oil rose an additional 200 feet between 3,323 and 3,330 feet. Same company's No. 24-SD Parkinson, SW NW, Section 22-4-92, is in gray shale and bentonite at 2,938 feet and making 1,500 bbls. of water. The Texas Production Co.'s No. 36 Lloyd, SE cor., Section 21-4-92, is drilling at 3,200 feet in shale, and Thomas McLaughlin and others' No. 1 Williams, NW SW, Section 2-3-92, is drilling at 3,175 feet. On the Moffat Dome, the Texas Production Co.'s No. 11 Knowlton, SE cor., Section 33-5n-91, is on top of a sand in the Morrison at 4,336 feet and setting up cable tools to replace the rotary. Same company's No. 5 Walter Wick, Section 10-4-91, is drilling at 4,415 feet.

In Larimer County, the Continental Oil Co.'s No. 2 Elder, SW NE, Section 18-9n-68, on the Wellington Dome, is drilling at 4,200 feet, and its No. 3 Mitchell, SE NE, Section 6-9-68, is drilling at 1,235 feet.

**WYOMING**

The Mountain Fuel Supply Co., formed recently as one of the units connected with the gas line projects from southwestern Wyoming into central Utah and southern Idaho, has taken over from the Ohio Oil Co. all of its operations on the Hiawatha Dome and in the Baxter Basin district in Sweetwater County, Wyoming, and will also operate the leases of the Somir Petroleum Corp., the Texas Production Co. and other concerns having holdings on the Hiawatha Dome and in the Baxter Basin district. The Reiter-Foster test on the Hiawatha Dome in Colorado, the Ohio's Canyon Creek test, and a new test to be started on Middle Baxter Basin Dome, are included. The Hiawatha and Baxter Basin properties are to be operated under the unit plan as a result of a tentative agreement reached recently by operators, landowners and affiliated interests. The Mountain Fuel Supply Co. is a subsidiary of the Western Public Service Co., the holding concern for the various units of the natural gas project. It will be under the direct management of officials associated with the Ohio Oil Co. Interests identified with the Ohio company will have charge of the production end; interests identified with the Prairie Oil & Gas Co. will have charge of the pipe line and transportation of the gas and the Lone Star Gas Co. and Crawford interests will have charge of the distribution of the gas to consumers.

Two completions were reported in Wyoming this week. The Ohio Oil Co.'s No. 1 Sonners, Account 3, SE Section 8-51-100, on the Oregon Basin Dome in Park County, an offset to the Continental Oil Co.'s No. 1-A State in the NW cor., Section 16, is estimated good for 500 bbls. a day, though it was not given a prolonged production test. It topped the Embar at 3,770 feet and the casing was cemented at 3,785 feet. After drilling out the cement and allowed to flow for a short time, it was shut in. The other completion was the Ohio's No. 1 Pulley, NW NW, Section 27-53-101, on the Shoshone Dome, near Cody, in Park County. Last fall it topped the Embar at 4,752 feet and had a good showing of oil and gave promise of opening a new black oil pool. However, at 4,780 feet it ran into hot water and since then efforts have been made to plug off the water. This was finally shut off and the well put on the pump. It is making 45 bbls. a day. On account of the reduced size of the hole, the test could not be carried down to the Tensleep, the big producing horizon at Oregon Basin. Another well is to be drilled on the same section by the Ohio company.

**Billy Creek Test**

Some excitement was occasioned by the publication of a report in local newspapers that the Carter Oil Co. had brought in a 2,000-bbl. well on the Billy Creek structure in Johnson County, Wyoming, opening another light oil field. The report was repeated a day later in other newspapers and spread over considerable territory. There was no foundation for the exaggerated statements. The com-

At the present time the oil industry is face to face with an over-production of crude and a flood of fuel oil

The crude producers are taking steps to remedy their predicament, but how about the refiner whose fuel oil is a by-product of his refinery operations?

The best way to reduce and avoid the accumulating surplus of fuel oil is to crack it by the Dubbs non-residuum method

which yields the maximum in premium gasoline and no fuel oil residue

And if gas oil is the available charging stock it is doubly important to use this method—the only one which does not degrade a large, if not the major, portion of the gas oil into fuel oil residue

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

pany's State well is in the SW cor., Section 16-48-82, half a mile east of the nearest gas well in the Frontier. It cut the Frontier at 3,212-40 feet and after cleaning itself was making 2,000,000 feet of gas and spraying about 5 bbls. of oil. The oil was soon exhausted. There are several big gas wells in the Frontier on this structure and the Carter company has made a persistent effort to get through the gas horizon and test the Dakotas, but bad luck has followed each attempt. The shows of oil in the gas wells have encouraged the belief that a flank well, or a test to lower horizons, might encounter a big oil pool.

The Kinney-Coastal Oil Co.'s No. 1 Dykeman, SE SW, Section 22-3n-1w, on the Pilot Butte Dome, in Fremont County, a test to the Sundance expected at around 4,100 feet, is drilling at 360 feet. The horizon in which Pilot Butte has some shallow production is expected at around 800 feet.

The Producers & Refiners Corp.'s No. 1, Section 7-57-97, on the Sage Creek structure in Park County, southeast of the new Frannie Dome, is bottomed at 1,950 feet and preparing to run the 8¼-inch. It has had some showings in the Dakota sands. The Midwest Refining Co.'s No. 36 Rosenberg, SE NW, Section 25-58-98, on the Frannie Dome, is drilling at 605 feet in gray slate, and its No. 1 Kirk, SE cor., Section 23-58-98, is drilling at 1,395 feet in red shale with 1,000 feet of water in the hole. The Texas Production Co.'s No. 1, Section 23-45-100, on the Skelton Dome in Hot Springs County, is bottomed at 1,214 feet waiting for the cement to set.

The Mountain Fuel Supply Co. (Ohio Oil Co.) has cellar dug for its No. 1 Arnold, NE Section 24-19-104, Middle Baxter Basin Field, in Sweetwater County. Same company's No. 1 Humphreys, Section 2-12-101, Canon Creek Dome, is shut down at 2,410 feet on account of a frozen water line.

In Sublet County, the California Co.'s No. 1 Wyss, Section 12-32-115, South Cottonwood, is drilling at 1,449 feet in hard gray sand, and its No. 1 Bushell, Section 11-29-115, Snyder Basin, is shut down on account of the blizzard. Same company's No. 1 Union Pacific, Section 7-17-116, in Uinta County, is drilling at 2,739 feet in pink sand. The Midwest Refining Co.'s Waterfall test in Section 35-22-115, Lincoln County, is drilling in brown hard sand at 2,495 feet.

### UTAH

George C. Vance and H. B. Durham, of Casper, have secured from the Utah Oil Refining Co. an option on its two gas wells on the Ashley Creek Dome, in Uintah County, Utah, including field equipment, and a franchise from the town of Vernal to supply it with natural gas. The wells are about 8 miles southeast of the town. A company will be incorporated to handle the project. The franchise provides for a minimum rate of 40 cents per 1,000 feet and a maximum rate of 50 cents. The town has a population of 2,500.

The Utah Oil Refining Co. stockholders recently authorized an increase in the number of directors from seven to nine. H. G. Naylor, of the Midwest Refining Co., and W. H. Harris, of Ogden, were elected to the new directorships.

The Utah Southern Oil Co.'s No. 1 Farnsworth, SE cor., ection 29-4s-1e, Uintah County, is drilling at 2,892 feet in gray limy shale, and the Continental Oil Co.'s Boundary Butte test in Section 22-43-22, San Juan County, is still bottomed at 4,525 feet and trying to lower casing. The Crescent Oil Syndicate, which recently took over No. 1 McCarthy, Section 27-21-19, Grand County, has received the 10-inch casing and is preparing to resume. It is bottomed at 1,602 feet in the Mancos shale and reported showing considerable gas.

### MONTANA

Snow and cold weather still hold the oil fields of Montana. Equipment cannot be hauled and in Sunburst nearly all operations are at a standstill. The Midwest Refining Co. has purchased a large part of the leases in Pondera of Continental Development Co. This deal includes much acreage of the Continental scattered over western Montana. The Pondera acreage includes the Gjullin, Jones and Wheeler leases, consisting of 160 acres each. The outside leases in western Montana sum up around 20,000 acres on wildcat structures. The Gjullin lease includes 11 producing wells that made a total of 15,627 bbls. in January, although owing to the weather several wells were not on production. The average per well for this lease is 93.37 bbls. per day. The Jones and Wheeler leases are about on a par with the Gjullin lease.

This deal gives the Midwest Refining control of the greater part of the Pondera Field. It also gives the Midwest the controlling interest in a new pipe line the Continental and others proposed to lay from the field to Conrad to supplement the Thurber pipe line serving the field.

The Continental still retains title to about 20,000 acres in western Montana and will start wildcatting this spring to test this acreage.

### Pipe Line Bill

Mayor H. B. Mitchell of Great Falls went before the Montana State Legislature and asked that body to pass a measure to make all pipe lines in Montana public utilities under the jurisdiction of the State Public Service Commission.

The new well of the Hibbing Faunce interests in the Sunburst Field, Section 1-34-2, reported as a large producer before the cold weather shut down the field, is making around 300 bbls. daily. This well was drilled to 2,040 feet and then came into production, but there is a difference of opinion as to where the oil is coming from. Some claim it has opened up a new producing horizon in Sunburst, while others claim the well blew itself in at a showing found at 1,406 feet in the Ellis sand.

In the Pondera Field, Burke & Rice's No. 18 on the Copley lease on Section 15-27-4, is a small producer. The Midwest Refining Co.'s No. 34 on the Copley lease is also in the sand and has a hole full of oil with the bottom at 1,928 feet. The same company's No. 16 on the State lease on Section 16-27-4 is in the pay at 2,020 feet and will make an average producer.

**ROCKY MOUNTAIN PRODUCTION**
**Daily Average Runs Week Ended February 23**

| | |
|---|---|
| **WYOMING** | |
| Salt Creek | 31,980 |
| Big Muddy | 2,250 |
| Grass Creek | 2,210 |
| Elk Basin | 730 |
| [illegible] | 20 |
| Rock River | 2,390 |
| Lance Creek | 300 |
| La Barge | 2,040 |
| Poison Spider | 870 |
| Oregon Basin | 3,350 |
| Osage | 290 |
| Lander | 560 |
| Byron | 40 |
| Lost Soldier | 3,410 |
| Simpson Ridge | 60 |
| Dutton Creek | 50 |
| Rex Lake | 120 |
| Hamilton Dome | 600 |
| Greybull | 10 |
| Total Wyoming | 51,280 |
| **MONTANA** | |
| Cat Creek | 1,260 |
| Kevin-Sunburst | 5,420 |
| Pondera | 1,800 |
| Total Montana | 8,480 |
| **COLORADO** | |
| Florence | 1,129 |
| Moffat | 879 |
| Fort Collins | 2,692 |
| Iles Dome | 1,164 |
| Rangely | 100 |
| Tow Creek | 318 |
| Boulder | 25 |
| Total Colorado | 6,307 |
| **NEW MEXICO** | |
| Rattlesnake | 1,262 |
| Hogback | 210 |
| Artesia | 962 |
| Cap Rock | 119 |
| Table Mesa | 116 |
| Total New Mexico | 2,669 |
| Total Rocky Mountain | 68,736 |

## OKLAHOMA FIELDS

(Continued from Page 53)

SW NW, Section 7-8-6. No. 2 Jones, SE cor. NE, Section 11-8-6, is rigging up to deepen from 4,300 feet. Gypsy Oil Co.'s No. 1 Peters, SE cor. NE, Section 23-5-7, is a location.

W. B. Joyce's No. 1 Haer, NW cor. SE, Section 31-10-5, is dry and abandoned at 4,648 feet. Sinclair Oil & Gas Co.'s No. 1 M. Taylor, SW cor. NW SE, Section 10-8-6, Bowlegs Pool, was deepened from 4,018 feet to 4,115 feet and made 310 bbls. Pure Oil Co.'s No. 7 Strothers "F," SE cor. NW NW, Section 10-8-6, made 26 bbls. from Wilcox sand at 4,210-40 feet. Carter Oil Co.'s No. 3 M. Harjo, NE cor. NW SW, Section 13-7-6, Little River Pool, was completed for 325 bbls. in Wilcox sand at 4,310-16 feet.

Shell Petroleum Corp.'s No. 1 Wolf, NE cor. SE SE, Section 23-7-6, made 20,000,000 feet of gas at 3,425 feet after plugging back from 4,900 feet. Sinclair Oil & Gas Co.'s No. 2 Nakotche, NE cor. SW SW, Section 18-5-8, Allen Pool, has been abandoned at 2,718 feet. The Prairie Oil & Gas Co.'s No. 1 Hurford, SE cor. NE SE, Section 32-10-6, is dry and abandoned at 4,570 feet in Wilcox sand.

### Stephens County

Ven-Mex Oil Co. and Mid-Continent Petroleum Co.'s rig is up for No. 1 Thompson, NE cor. SE SE SW, Section 35-1s-8w. Pace and others' No. 2 McMaster, SE cor. NW NE, Section 13-2s-8w, is rigging up. Bunn-Marvin Co.'s No. 2 Williamson, NE cor. SW SE, Section 12-1-6w, has been abandoned at 4 feet. Wirt Franklin Petroleum Corp.'s No. 3 School, NE cor. Section 36-1s-9w, has been abandoned at 2,490 feet. Max Westheimer's No. 2 M. Martin, NW cor. SE SE, Section 11-1s-4w, made a 12-bbl. well in sands at 2,927-3,097 feet. Pace and others' No. 1 McMasters, NW cor. SE NE, Section 13-2s-8w, made 40 bbls. from sand at 1,440-60 feet.

### Tulsa County

Devonian Oil Co.'s No. 2 Brown, CEL W half SE NW, Section 4-18-12, is rigging up to deepen.

### Wagoner County

E. B. Rees' No. 1 George Mure, SW cor. NW, Section 4-18-17, is dry and abandoned at 500 feet.

The production of the more recent Seminole pools by companies and leases on Thursday, February 21, 1929, follows:

**Little River Pool**

| Company, farm— | Location | Wells | Prod. |
|---|---|---|---|
| Amerada: | | | |
| Nitey | 2- 7-6 | 3 | 725 |
| Amerada-Wilcox: | | | |
| Fore | 35- 8-6 | 2 | 690 |
| Barnsdall: | | | |
| Cotcha | 23- 7-6 | 2 | 990 |
| Hotulke | 22- 7-6 | 3 | 395 |
| Walker | 4- 7-6 | 1 | 442 |
| Blackwell: | | | |
| Baker | 11- 7-6 | 4 | 1,770 |
| Nitey | 35- 8-6 | 6 | 1,312 |
| Talley | 14- 7-6 | 4 | 962 |
| Bryan & Emery: | | | |
| Walker | 4- 7-6 | 1 | 13 |
| Carter: | | | |
| Cotcha, M. | 23- 7-6 | 3 | 155 |
| Cudjo, L. | 23- 7-6 | 2 | 215 |
| Fish | 36- 8-6 | 4 | 420 |
| Harjo, C. | 11- 7-6 | 3 | 3,325 |
| Harjo, M. | 13- 7-6 | 4 | 2,415 |
| Jackson | 11- 7-6 | 4 | 1,350 |
| Larney | 24- 7-6 | 4 | 2,755 |
| Lena | 10- 7-6 | 1 | 1,360 |
| Moore | 1- 7-6 | 2 | 455 |
| Tewee | 14- 7-6 | 6 | 1,772 |
| Thomas | 11- 7-6 | 1 | .... |
| Wilson | 12- 7-6 | 2 | 230 |
| Champlin: | | | |
| Tewee | 14- 7-6 | 2 | 1,378 |
| Continental: | | | |
| Cosar | 36- 8-6 | 7 | 1,620 |
| Cosar, M. | 25- 8-6 | 1 | 279 |
| Continental & Fisher: | | | |
| Milsey | 11- 7-6 | 2 | 390 |
| Empire: | | | |
| Charty | 24- 7-6 | 1 | .... |
| Coker | 13- 7-6 | 2 | 522 |
| Sandlin | 3- 7-6 | 1 | 11 |
| Gypsy: | | | |
| Brown, C. | 33- 8-6 | 2 | 337 |
| Brown, M. | 33- 8-6 | 1 | 587 |
| Campbell | 33- 7-6 | 2 | .... |
| Conard | 22- 7-6 | 2 | 540 |
| Cosar, W. | 36- 8-6 | 2 | 130 |
| Cotcha | 23- 7-6 | 7 | 2,357 |
| Denmark | 11- 7-6 | 4 | 1,365 |
| Hulhoke | 14- 7-6 | 10 | 2,372 |
| Mungee | 1- 7-6 | 1 | .... |
| Payne | 5- 7-7 | 1 | .... |
| Pottie | 35- 8-6 | 4 | 770 |
| Renton | 11- 7-6 | 3 | 442 |
| Independent: | | | |
| Davis, R. | 13- 7-6 | 4 | 1,735 |
| Tewee | 14- 7-6 | 6 | 1,558 |
| Williams | 15- 7-6 | 1 | 420 |
| Independent & Highway: | | | |
| Harris | 23- 7-6 | 8 | 2,233 |
| Independent & White Eagle: | | | |
| Davis | 2- 7-6 | 4 | 315 |
| I. T. I. O.: | | | |
| Campbell | 1- 7-6 | 1 | 83 |
| Dungan | 35- 8-6 | 3 | 355 |
| House, M. A. | 1- 7-6 | 1 | 41 |
| House, W. E. | 1- 7-6 | 1 | 11 |
| House "B" | 2- 7-6 | 4 | 619 |
| Hull | 26- 8-6 | 3 | 289 |
| Jackson | 1- 7-6 | 3 | 173 |
| McCulla | 1- 7-6 | 3 | 124 |
| Nitey | 2- 7-6 | 6 | 38 |
| Phoebe "A" | 36- 8-6 | 2 | 43 |
| Phoebe "B" | 36- 8-6 | 3 | 48 |
| Reed | 1- 7-6 | 1 | .... |
| Soketheche | 1- 7-6 | 3 | 431 |
| Magnolia: | | | |
| Cruse | 2- 7-6 | 4 | 179 |
| Denby | 11- 7-6 | 4 | 232 |
| Dixon | 31- 8-7 | 1 | 2 |
| Harjo, A. | 14- 7-6 | 2 | 107 |
| Harjo, B. | 14- 7-6 | 2 | 264 |
| Pottie | 35- 8-6 | 4 | 112 |
| Reed, E. | 31- 8-7 | 1 | 32 |
| Reed, I. | 22- 7-6 | 3 | 794 |
| Marland & Shaffer: | | | |
| Harrison | 4- 7-7 | 1 | 272 |
| McCulloch & Sands: | | | |
| Harrison | 4- 7-6 | 1 | 36 |
| Mid-Continent: | | | |
| Brunner | 11- 7-6 | 4 | 272 |
| Fleck | 23- 7-6 | 1 | 70 |
| Smith | 5- 7-7 | 3 | 2,222 |
| Wadsworth | 36- 8-6 | 7 | 500 |
| W. B. Pine: | | | |
| Hoyecha | 26- 8-6 | 7 | 1,800 |
| Pine-Phillips: | | | |
| Pottie | 35- 8-6 | 2 | 610 |
| Prairie: | | | |
| Chilcoat | 25- 8-6 | 3 | 600 |
| Dungan | 35- 8-6 | 1 | 70 |
| Gibson | 14- 7-6 | 5 | 1,300 |
| Harris | 14- 7-6 | 4 | 1,300 |
| House | 2- 7-6 | 4 | 75 |
| Johnson | 24- 7-6 | 1 | 440 |
| Lustey | 5- 7-7 | 1 | 60 |
| Moppin | 24- 7-6 | 2 | 1,200 |
| Talley | 14- 7-6 | 4 | 1,200 |
| Prairie & Amerada: | | | |
| Sunny | 14- 7-6 | 7 | 2,950 |
| Pure: | | | |
| Brinson | 24- 7-6 | 2 | 1,327 |
| Cotcha | 14- 7-6 | 10 | 3,721 |
| Harjo | 11- 7-6 | 4 | 1,222 |
| Hollins | 11- 7-6 | 1 | 161 |
| Reiter-Foster: | | | |
| Bunyard | 14- 7-6 | 4 | 1,104 |
| Shaffer: | | | |
| Narcome | 36- 8-6 | 2 | 316 |
| Shell: | | | |
| Caesar | 11- 7-6 | 1 | 60 |
| Glass | 26- 7-6 | 1 | 55 |
| Hotulke | 23- 7-6 | 4 | 825 |
| Jeffries | 32- 8-7 | 1 | .... |
| Johnson | 13- 7-6 | 4 | 3,850 |
| Sinclair: | | | |
| Cosar | 30- 8-6 | 3 | 1,310 |
| Haney | 12- 7-6 | 1 | 75 |
| Tewee | 14- 7-6 | 2 | 1,040 |
| Sinclair & Kingwood: | | | |
| Pompey | 24- 7-6 | 1 | .... |
| Skelly: | | | |
| Carl | 14- 7-6 | 2 | 1,534 |
| Slick: | | | |
| Reed | 13- 7-6 | 2 | 1,363 |
| Williams | 15- 7-6 | 1 | 745 |
| Wood | 26- 7-6 | 2 | 320 |
| Slick & Pine: | | | |
| Coker | 1- 7-6 | 1 | 900 |
| Snowden-McSweeney: | | | |
| Pixer | 13- 7-6 | 3 | 300 |
| Superior: | | | |
| Poultka | 31- 8-6 | 1 | .... |
| Soketheche | 1- 7-6 | 1 | 5 |
| Texas: | | | |
| Brooks | 25- 8-6 | 1 | 33 |
| Coker | 1- 7-6 | 3 | 259 |
| Janey | 11- 7-6 | 5 | 940 |
| Texas & Independent: | | | |
| Hotulke | 23- 7-6 | 4 | 1,875 |
| Hotulke | 22- 7-6 | 1 | .... |
| Tidal: | | | |
| House | 1- 7-6 | 2 | 245 |
| Johnson | 1- 7-6 | 1 | 25 |
| Twin States: | | | |
| Lowe | 25- 8-6 | 1 | 125 |
| Wigdon & Long: | | | |
| Jefferson | 31- 7-6 | 1 | 12 |
| Total | | 326 | 84,559 |

**Maud Pool**

| | | | |
|---|---|---|---|
| Amerada: | | | |
| Ballard | 1- 8-4 | .. | 585 |
| Fehlig | 7- 8-5 | .. | .... |
| Gossland | 8- 8-5 | 1 | 440 |
| Gravel | 1- 8-4 | 1 | .... |
| Hallum | 1- 8-4 | 3 | 1,980 |
| Amerada & Barnsdall: | | | |
| Wallace | 17- 8-5 | 1 | 370 |
| Amerada & Hull: | | | |
| Green | 20- 8-5 | 1 | 585 |
| Barnsdall: | | | |
| Coker | 11- 8-5 | 3 | 5,124 |
| Fife | 14- 8-5 | 2 | 370 |
| Darby: | | | |
| Ketcham | 19- 8-5 | 1 | 135 |
| Empire: | | | |
| Cluck | 11- 8-5 | 1 | 1,726 |
| Gypsy: | | | |
| Bonassa | 7- 8-5 | 2 | 560 |
| Coker | 10- 8-5 | 1 | 250 |
| Fife | 14- 8-5 | .. | .... |
| Miller | 18- 8-5 | 3 | 5,842 |
| Independent: | | | |
| Harding | 18- 8-5 | 4 | 2,685 |
| I. T. I. O.: | | | |
| Simpson | 10- 8-5 | 1 | .... |
| State | 16- 8-5 | 1 | .... |
| Tully | 10- 8-5 | 1 | 43 |
| Laurel Oil & Gas: | | | |
| Billington | 18- 8-5 | 1 | 845 |
| Magnolia: | | | |
| Billington | 8- 8-5 | .. | 240 |
| Phillips: | | | |
| Killing | 14- 8-5 | 1 | 15 |
| Wallace | 17- 8-5 | 1 | 576 |
| Phillips et al: | | | |
| Hudson | 19- 8-5 | 2 | 457 |
| Prairie: | | | |
| Billington | 11- 8-5 | 4 | 2,516 |
| Campbell | 18- 8-5 | 4 | 2,465 |
| Mitchell | 15- 8-5 | 1 | 199 |
| Pure: | | | |
| Beebe | 6- 8-5 | .. | .... |
| Lindly | 18- 8-5 | 4 | 1,455 |
| Urbansky | 19- 8-5 | 1 | 122 |
| C. Wiley | 8- 8-5 | 4 | 2,336 |
| Shell: | | | |
| N. Wiley | 8- 8-5 | .. | .... |
| Sinclair: | | | |
| Bellars | 19- 8-5 | 7 | 2,257 |
| Calvin | 11- 8-5 | 1 | 75 |
| Harjo | 11- 8-5 | 1 | 1,104 |
| Skelly & Margay: | | | |
| Lingenfelt | 18- 8-5 | 2 | 1,827 |
| Slick & White Eagle: | | | |
| Villines | 20- 8-5 | 1 | .... |
| Sunray & Call-Cul: | | | |
| Davis | 19- 8-5 | 1 | .... |
| Texas: | | | |
| Calvin | 7- 8-5 | 3 | 670 |
| Tidal: | | | |
| Dunn | 12- 8-4 | 1 | 90 |
| Everett | 18- 8-5 | 1 | 235 |
| Smith | | 1 | 245 |
| Twin States: | | | |
| Calvin | 7- 8-5 | 2 | 505 |
| Wilcox: | | | |
| Smith | 8- 8-5 | 1 | 950 |
| Total | | 75 | 39,873 |

**Mission Pool**

| | | | |
|---|---|---|---|
| Amerada: | | | |
| Rice | 5- 8-6 | 1 | 990 |
| Carter: | | | |
| Fuswa | 18- 8-6 | 2 | 1,477 |
| Melissa | 9- 8-6 | 1 | 900 |
| Micco | 8- 8-6 | 2 | 900 |
| Darby: | | | |
| Judy | 1- 8-5 | 1 | 105 |

| | | | |
|---|---|---|---|
| Gypsy: | | | |
| Baby | 6- 8-6 | 1 | 15 |
| N. Barkus | 6- 8-6 | 6 | 2,542 |
| S. Barkus | 7- 8-6 | 1 | .... |
| Dosar | 7- 8-6 | 3 | 3,285 |
| Hardy | 7- 8-6 | 4 | 1,505 |
| Harjoche | 7- 8-6 | 3 | 1,045 |
| L. Micco | 8- 8-6 | 2 | 227 |
| S. Micco | 8- 8-6 | 1 | .... |
| Mission | 5- 8-6 | 5 | 3,824 |
| Mosar | 1- 8-5 | 3 | 587 |
| Independent: | | | |
| Lawson | 1- 8-5 | 2 | 3,077 |
| Independent & Kistler: | | | |
| Payne | 7- 8-6 | .. | 2,510 |
| Marland: | | | |
| Maines | 7- 8-6 | 2 | 1,485 |
| McMahon et al: | | | |
| Harjo | 7- 8-6 | 1 | 380 |
| Mid-Kansas: | | | |
| Moore | 7- 8-6 | 1 | 145 |
| Minnehoma: | | | |
| Neal | 7- 8-6 | 2 | 1,751 |
| Prairie: | | | |
| Micco | 5- 8-6 | 1 | 15 |
| Melton | 6- 8-6 | 2 | 65 |
| Shell & Marland: | | | |
| Herndon | 7- 8-6 | 1 | 707 |
| Shell & Papoose: | | | |
| Maines | 7- 8-6 | 3 | 2,184 |
| Sick: | | | |
| Crain | 7- 8-6 | 1 | .... |
| Tidal: | | | |
| Nelly | 12- 8-5 | 2 | 2,165 |
| Twin States: | | | |
| Hayes | 8- 8-6 | 2 | 3,457 |
| Judy | 6- 8-6 | 2 | 2,143 |
| W. B. Pine: | | | |
| Harjo | 6- 8-6 | 1 | 160 |
| Prairie: | | | |
| Townsend | 6- 8-6 | 1 | .... |
| Gypsy: | | | |
| Owens | 18- 8-6 | 1 | 475 |
| Shaffer: | | | |
| Weaver | 12- 8-5 | 1 | 1,163 |
| Sinclair: | | | |
| Hardy | 7- 8-6 | 3 | 1,328 |
| Judy | 1- 8-5 | 1 | .... |
| Total | | 68 | 40,012 |

**Bowlegs Pool**

| | | | |
|---|---|---|---|
| Amerada: | | | |
| Roscoe | 15- 8-6 | 7 | 975 |
| Atlantic: | | | |
| Baker | 10- 8-6 | 4 | 335 |
| Fleet | 23- 8-6 | 3 | 190 |
| Grayson | 13- 8-6 | 4 | 580 |
| Jones, A. | 16- 8-6 | 2 | 60 |
| Jones, C. | 9- 8-6 | 1 | 71 |
| Barnsdall: | | | |
| McNac | 28- 8-6 | 1 | 21 |
| Murrow | 11- 8-6 | 4 | 278 |
| Carter Oil: | | | |
| Bowlegs | 15- 8-6 | 4 | 560 |
| Burden | 23- 8-6 | 2 | 190 |
| Harjoche | 14- 8-6 | 6 | 610 |
| Hilly | 23- 8-6 | 3 | 37 |
| Jones | 11- 8-6 | 4 | 440 |
| Walker | 15- 8-6 | 4 | 410 |
| Wise | 23- 8-6 | 11 | 1,340 |
| Dixie: | | | |
| Culley | 11- 8-6 | 1 | 90 |
| Empire: | | | |
| Lacy | 14- 8-6 | 6 | 360 |
| Wise | 23- 8-6 | 2 | 167 |
| Gypsy: | | | |
| Bowlegs | 22- 8-6 | 1 | 150 |
| Bradley | 8- 8-6 | 1 | 2 |
| Cussey | 10- 8-6 | 4 | 607 |
| Grayson | 13- 8-6 | 4 | 355 |
| Harjoche | 10- 8-6 | 3 | 247 |
| Jones | 11- 8-6 | 1 | .... |
| Walker | 15- 8-6 | 7 | 815 |
| Wise | 23- 8-6 | 2 | 157 |
| I. T. I. O.: | | | |
| Barnett | 24- 8-6 | 2 | 161 |
| Barnett "B" | 23- 8-6 | 1 | 60 |
| Billington | 22- 8-6 | 5 | 32 |
| Bowlegs | 22- 8-6 | 10 | 1,253 |
| Davis | 13- 8-6 | 4 | 403 |
| Fay | 13- 8-6 | 9 | 963 |
| Goforth | 15- 8-6 | 12 | 839 |
| Livingstone | 15- 8-6 | 10 | 1,350 |
| Lizzie | 13- 8-6 | 3 | 92 |
| Walker | 15- 8-6 | 8 | 770 |
| Williams | 12- 8-6 | 1 | .... |
| Wilmott | 15- 8-6 | 4 | 242 |
| Work | 24- 8-6 | 1 | 6 |
| Youngblood | 24- 8-6 | 2 | 108 |
| Magnolia: | | | |
| Davis | 13- 8-6 | 3 | 306 |
| Davis, M. | 13- 8-6 | 1 | 106 |
| Hammond | 10- 8-6 | 8 | 543 |
| Rhodes | 12- 8-6 | 5 | 356 |
| Van Buskirk | 9- 8-6 | 2 | 624 |
| McCulloch: | | | |
| Bowlegs | 22- 8-6 | 2 | 170 |
| Mid-Continent: | | | |
| Baker | 10- 8-6 | 4 | 261 |
| Bowlegs | 22- 8-6 | 1 | 4 |
| Smith | 12- 8-6 | 6 | 475 |
| Minnehoma: | | | |
| Bowlegs | 15- 8-6 | 4 | .... |
| Prairie: | | | |
| Gahagan | 23- 8-6 | 3 | 325 |
| Harber | 10- 8-6 | 8 | 1,640 |
| Jones | 11- 8-6 | 4 | 325 |
| Templeton | 12- 8-6 | 5 | 1,760 |
| Whitney | 23- 8-6 | 4 | 545 |
| Pure Oil: | | | |
| Reed | 14- 8-6 | 14 | 1,938 |
| Strother "D" 11 & | 14- 8-6 | 4 | 379 |
| Strother "F" .... | 10- 8-6 | 7 | 1,837 |
| Roxana: | | | |
| Taylor | 16- 8-6 | 5 | 360 |
| Shaffer: | | | |
| Lacy | 14- 8-6 | 3 | 58 |
| Sinclair: | | | |
| Cussey | 10- 8-6 | 4 | 740 |
| Ellen | 11- 8-6 | 6 | 642 |
| Harjo | 14- 8-6 | 3 | 787 |
| Jones | 9- 8-6 | 7 | 185 |
| Taylor | 10- 8-6 | 4 | 728 |
| Taylor, W. | 10- 8-6 | 3 | 434 |
| Walker | 22- 8-6 | 4 | 855 |
| Sick: | | | |
| Jones | 3- 8-6 | 1 | .... |
| Texas: | | | |
| Reed | 14- 8-6 | 11 | 690 |
| Tidal: | | | |
| Grayson | 13- 8-6 | 4 | 235 |
| Harjoche | 10- 8-6 | 6 | 695 |
| Total | | 311 | 33,334 |

**Earlsboro Pool**

| | | | |
|---|---|---|---|
| Amerada: | | | |
| Anderson | 15- 9-5 | 2 | 311 |
| Cowden | 4- 9-5 | 7 | 854 |
| Rogers | 3- 9-5 | 2 | 20 |
| Atlantic & Gypsy: | | | |
| Delaware | 13- 9-4 | 1 | .... |
| Atlantic & Sinclair: | | | |
| Foreman | 18- 9-5 | 1 | 130 |
| Barnsdall: | | | |
| Brown | 10- 9-5 | 4 | 1,059 |
| Bruner, F. | 2- 9-5 | 2 | 96 |
| Bruner, N. | 10- 9-5 | 3 | 1,100 |
| Cudjo | 14- 9-5 | 1 | 25 |
| Davis, D. | 11- 9-5 | 3 | 345 |
| Davis, J. | 11- 9-5 | 4 | 808 |
| Davis, M. | 11- 9-5 | 2 | 39 |
| Gibson | 9- 9-5 | 7 | 1,139 |
| Hern | 15- 9-5 | 1 | 1 |
| Ingram | 1- 9-5 | 8 | 367 |
| Pack, S. | 10- 9-5 | 4 | 132 |
| Peter | 10- 9-5 | 4 | 79 |
| Sango | 1- 9-5 | 2 | 1,223 |
| Sebalka | 15- 9-5 | 1 | 199 |
| Sullivan, H. | 11- 9-5 | 1 | 10 |
| Sull-Harjo | 10- 9-5 | 2 | 20 |
| Wasutke | 12- 9-5 | 3 | 741 |
| Burke-Greis: | | | |
| Wisner | 6- 9-6 | 2 | 545 |
| Burke & Red Bank: | | | |
| Mays | 1- 9-5 | 1 | 1,200 |
| Carter: | | | |
| Davis | 13- 9-5 | 2 | 175 |
| James | 6- 9-6 | 4 | 2,215 |
| Gilliam | 13- 9-5 | 2 | 200 |
| Continental: | | | |
| Kays | 2- 9-5 | 2 | 17 |
| Spencer | 12- 9-5 | 4 | 590 |
| Empire: | | | |
| Barker | 12- 9-5 | 1 | 40 |
| Edmondson | 3- 9-5 | 3 | 75 |
| Empire & Amerada: | | | |
| Bullock | 8- 9-5 | 1 | 530 |
| Gypsy: | | | |
| Bruner | 10- 9-5 | 4 | 2,160 |
| Carter, B. | 11- 9-5 | 7 | 2,255 |
| Earl | 16- 9-5 | 1 | 16 |
| Hunick | 5- 9-5 | 2 | 1,717 |
| Noble | 12- 9-5 | 4 | 1,340 |
| Peter | 10- 9-5 | 2 | 117 |
| Sango | 1- 9-5 | 14 | 2,935 |
| State | 16- 9-5 | 4 | 360 |
| Independent: | | | |
| Bruner | 10- 9-5 | 3 | 100 |
| Sullivan | 10- 9-5 | 1 | 10 |
| Knapp | 8- 9-5 | 4 | 1,289 |
| Independent-Margay: | | | |
| Gains | 11- 9-5 | 3 | 340 |
| Magnolia: | | | |
| Bryant | 9- 9-5 | 6 | 289 |
| Cowden | 4- 9-5 | 2 | 20 |
| Dixon | 12- 9-5 | 1 | 18 |
| Edmondson | 3- 9-5 | 1 | 4 |
| Germany | 36- 9-5 | 1 | 20 |
| Gilliam | 13- 9-5 | 1 | 3,475 |
| Holmsley | 11- 9-5 | 7 | 20 |
| Hyde | 12- 9-5 | 1 | 444 |
| Ingram | 10- 9-5 | 1 | 15 |
| Lena | 10- 9-5 | 3 | 35 |
| Moore | 24- 9-5 | 1 | 56 |
| Seay | 12- 9-5 | 9 | 628 |
| Simpson | 10- 9-5 | 4 | 299 |
| Sparks | 11- 9-5 | 6 | 208 |
| Sullivan | 12- 9-5 | 3 | 70 |
| Mid-Continent: | | | |
| McCumber | 9- 9-5 | 7 | 47 |
| Rogers | 5- 9-5 | 2 | 1,535 |
| Mid-Kansas: | | | |
| Anderson | 14- 9-5 | 2 | 45 |
| Phillips: | | | |
| Dunaway | 14- 9-5 | 1 | 25 |
| Prairie: | | | |
| Baker | 24- 9-5 | 2 | 200 |
| Davis | 13- 9-5 | 3 | 1,100 |
| Graham, C. | 3- 9-5 | 2 | 15 |
| Graham, O. | 10- 9-5 | 4 | 820 |
| Stidham | 11- 9-5 | 10 | 800 |
| Prairie & Whitney: | | | |
| Harjo | 24- 9-5 | 1 | 45 |
| Roxana: | | | |
| Bayless | 17- 9-5 | 1 | 12 |
| Hearn | 13- 9-5 | 1 | 125 |
| Spencer* | 12- 9-5 | 2 | 1,232 |
| Shaffer: | | | |
| Clark | 1- 9-5 | 3 | 165 |
| McCoy | 36-10-5 | 1 | .... |
| Sinclair: | | | |
| Foreman | 18- 9-5 | 1 | 15 |
| Hollins | 12- 9-5 | 1 | 27 |
| Sango | 2- 9-5 | 4 | 1,807 |
| Skelly: | | | |
| Mays | 1- 9-5 | 3 | 1,537 |
| Shepard | 6- 9-6 | 3 | 1,619 |
| Spencer | 12- 9-5 | 1 | .... |
| Skelly & Atlantic: | | | |
| Cherry | 6- 9-6 | 4 | 938 |
| Lottie | 6- 9-6 | 2 | 2,006 |
| Slick: | | | |
| James | 6- 9-6 | 2 | 1,967 |
| Slick et al: | | | |
| Campbell | 6- 9-6 | 5 | 3,686 |
| Superior: | | | |
| Ingram | 1- 9-5 | 1 | 850 |
| Walker | 2- 9-5 | 3 | 1,832 |
| Texas: | | | |
| Anderson | 2- 9-5 | 8 | 110 |
| Brown | 10- 9-5 | 8 | 205 |
| James | 6- 9-6 | 2 | 220 |
| Rogers | 5- 9-5 | 5 | 900 |
| Wilmott | 10- 9-5 | 7 | 35 |
| Tidal: | | | |
| Walker | 35-10-5 | 2 | 1,300 |
| Watkins | 9- 9-5 | 7 | 1,515 |
| Twin States: | | | |
| Barker | 12- 9-5 | 3 | 55 |
| Hern | 2- 9-5 | 4 | 30 |
| Total | | 301 | 59,355 |

*The Shell Petroleum (Roxana) Corp.'s Spencer lease in Section 12-9-5, Earlsboro Pool, was erroneously reported as making 10 bbls. for February 14. This figure should have been 1,309 bbls.

## CALIFORNIA BANQUET

The annual banquet of the California Oil & Gas Association, formerly the Chamber of Mines and Oil, will be held at the Biltmore Hotel, Los Angeles, March 7. Arrangements for the affair have been placed in the hands of the "Wildcats," an organization within the association. The banquet committee consists of J. U. Stair, chairman; Ward B. Blodget, Emerson Butterworth, Walker S. Clute, R. P. Cooney, W. W. Copp, W. E. Dunlap, Joseph Dunn, F. E. Foster, W. H. Geis, W. R. Guiberson, A. S. Hayes, Edwin Higgins, L. L. Hillman, Dana Hogan, Harry Kassebaum, C. E. Olmsted, G. D. Robertson, Wendell M. Smith, W. L. Stewart, Jr., A. E. Wallace, M. D. Woolery and Fred A. Worthey.

## WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 48)

Exploration Co.'s No. 2 Hartgrove, 900 ft. S and 935 ft. E of NW cor. Johann Scheuch Sur. No. 240 ..... Rig.

Loyd Jones Co.'s No. 1 Jones, 430 ft. S and 15 ft. E of NW cor. John G. Reh Sur. No. 1,378 ..... Drilled to 660 ft. and shut down.

**CRANE COUNTY**

Gulf Prod. Co.'s No. 6 Waddell, C NW NE Sec. 13, Blk. B-25 ..... Top salt 1,825 ft.; drlg. 2,810 ft.

**CROCKETT COUNTY**

Barbara Oil Co.'s No. 1 Cox, 337 ft. S and 1,190 ft. E of NW cor. R. B. Dickenson Sur. ..... Show gas 1,000 ft.; drlg. 1,305 ft.

Lewis & Daniels' No. 1 Pecos River Bed, 19 yards S and 37 degrees E of NW cor. Sec. 33, Blk. 1, I.&G.N. Sur. ..... Shut down 286 ft.

W. W. Donnelly & Young's No. 1 Shannon, SW SW SE Sec. 42, Blk. BB, T.C.R.A. Sur. ..... Shut down 1,719 ft.

W. W. Donnelly & Young's No. 1 Middlebuster, C. Sec. 11, Blk. 9, D.&S.E. Sur. ..... 7,000,000 ft. gas at 1,661 ft.; shut down 1,690 ft.; small oil show.

Moncrief, Donnelly et al's No. 2 Todd, C Sec. 55, Blk. UV, G.C.&S.F. Sur. ..... Drlg. 800 ft.

Moncrief, Donnelly et al's No. 3 Todd, C Sec. 55, Blk. UV, G.C.&S.F. Sur. ..... Spudded and shut down.

Tidal Oil Co.'s No. 1 Weathered, 5,055 ft. SW of NE line and 330 ft. SE of NW line Sec. 36, Blk. 31, H.&T.C.R.R. ..... Top salt 485 ft.; shut down 765 ft.

J. D. Wheeler's No. 1 State Land, 744 ft. S and 1,250 ft. E from SE cor. Sec. 73, Blk. 1, I.&G.N.R.R. Sur., but in Vacancy Strip ..... Shut down 400 ft.

**CULBERSON COUNTY**

Deep Rock Oil Co. et al's No. 1 Kloh-Rumsey, 800 ft. S and 1,422 ft. E of NW cor. Sec. 33, Blk. 59, Twp. 7, T.&P.R.R. Sur. ..... Location.

Hickey & Stiver's No. 1 C. O. Finley, 660 ft. N and 1,980 ft. W Sec. 20, Blk. 82 ..... Hole full water; small oil show 1,331 ft.; pipe set 1,418 ft.; shut down 1,790 ft.

W. S. Hillyer's No. 1 McGregor, C NW Sec. 14, Blk. 81.. Shut down 530 ft.

Scott & Dittman's No. 1 Miller, 1,160 ft. N and 2,480ft. E Sec. 1, Blk. 97, Public School Land ..... Rainbow 1,056 ft.; 300 ft sulphur water 1,725 ft.; shut down for casing 1,767 ft.

**DAWSON COUNTY**

Magnolia Petroleum Co.'s No. 1 W. A. Jetter, C Sec. 1, Blk. 34, Twp. 4n ..... Top salt 1,650 ft.; top lime 3,560 ft.; set 10-in. casing 1,815 ft.; oil show 3,856 ft.; drlg. 4,225 ft.; 3,500 ft. salt water at 4,000 ft.; rainbow at 4,263 ft.; shut down 4,320 ft.; preparing to plug.

**FISHER COUNTY**

Bickerstaff et al's No. 1 McWhirter, 2,640 ft. E and 150 ft. N of SW cor. of Sec. 295, Blk. 2, H.&T.C. Sur. .. Shut down 2,000 ft. for orders.

Cranfill & Reynolds' No. 1 Brown, 330 ft. S and E of NW cor. Sec. 4, W. E. Richardson Sur. ..... Drlg. 2,661 ft.

Cranfill & Reynolds' No. 2 Willingham, 1,980 ft. S and 2,310 ft. W of NE cor. Sec. 207, B.B.B.&C.R.R. Sur... Drlg. 1,320 ft.

Cranfill & Reynolds' No. 1 Fleming, 1,980 ft. S and 2,310 ft. E of NW cor. Sec. 207, B.B.B.&C.R.R. ..... Drlg. 2,485 ft.

Dunnegan Bros.' No. 1 T. Henry, 330 ft. N and E of SE cor. Sec. 21, George W. Burdett Sur. No. 322, but in Sec. 4, Robert Hibbitt Sur. No. 331 ..... Underreaming 2,050 ft.

Gilman-McMurray & French's No. 1 Cleveland, 781 ft. N and 1,336 ft. W of SE cor. Sec. 116, Blk. 2, H.&T.C. Sur. ..... Set 8-in. casing 685 ft.; drlg. 885 ft.

Hucony Gas Co.'s No. 1 D. F. Maberry, 1,078 ft. S and 188 ft. W of NE cor. Elijah Bell Sur. No. 327 ..... Hole full salt water 2,735 ft.; top lime 2,960 ft.; pay 2,964-70 ft.; show oil and water; set 5-in. 3,195 ft.; shut down 3,250 ft.; plugged back to shoot.

Landreth Prod. Corp.'s No. 1 Cooper, 440 ft. SE of NE cor. NW Sec. 115, Blk. 1, H.&T.C. Sur. ..... Drlg. 2,400 ft.

Mesa Oil Co.'s No. 1 Griffin, 849 ft. N and 465 ft. E of NE cor. Sec. 20, School Land ..... Rigging up.

Roeser & Pendleton's No. 1 Haught, 440 ft. S and 1,320 ft. E of NW cor. of SW of Sec. 191, B.B.B.&C.R.R. Sur. ..... Rig.

Texas-Phillips' No. 1 Hall, 330 ft. N and W of SE cor. Sec. 6, Blk. 20 ..... Moving in material.

Thompson et al's No. 1 Newman, 1,320 ft. N and 660 ft. W of SE cor. of SW Sec. 44, Blk. 1, H.&T.B. Sur.... Top lime 2,810 ft.; good show oil 2,843-45 ft.; shut down 3,240 ft.

**GAINES COUNTY**

Pure Oil Co.'s No. 1 A. A. Williamson, 1,650 ft. S and 330 ft. W of NE cor. Sec. 110, Blk. H, D.&W.R.R.... Top salt 2,339 ft.; drlg. 3,408 ft.

**GARZA COUNTY**

Emerald Oil Co.'s No. 4 J. M. Boren, 330 ft. S and W NE cor. Sec. 136, Blk. 5, H.&G.N. Sur. ..... Set 8-in. casing 1,975 ft.

**GLASSCOCK COUNTY**

Chas. Daniel et al's No. 1 Meek, 2,310 ft. W and 1,600 ft. N of SE cor. Sec. 7, Blk. 34, Twp. 3s, T.&P. Sur... Spudded and shut down.

Gibson & Johnson's No. 1 Mann, C NW Sec. 6, Blk. 33, T.&P. Sur. ..... Drlg. 2,745 ft.

R. R. Penn's No. 1 Hughes-Johnson, C NW Sec. 45, Blk. 30, W.&N.W. Sur. ..... Drlg. 2,560 ft.

Marland Prod. Co. et al's No. 7-A Settles, 2,310 ft. S and W of NE cor. Sec. 158, Blk. 29, W.&N.W. Sur.... Location.

McElreath & Suggett's No. 1 Underwood, C NE Sec. 24, Blk. 36, Twp. 4s, T.&P.R.R. Sur. ..... Location.

Meriweather Oil Co.'s No. 2 McDowell, 1,492 ft. N and 150 ft. E of SE Sec. 35, Blk. 34, Twp. 2s, T.&P. Sur... Hole full water 2,665 ft.; set 6-in casing 2,700 ft.; drlg. 2,930 ft.

World Oil Co.'s No. 1-C McDowell, 1,650 ft. S and 2,310 ft. W of NE cor. Sec. 21, Blk. 34 ..... Shut down 750 ft.

White Eagle Oil & Ref. Co.'s No. 1 Dunbar, C of NW Sec. 46, Blk. 34, Twp. 4s, T.&P.R.R. Sur. ..... Drlg. 2,820 ft.

**HOWARD COUNTY**

Amerada Pet. Co. & Rycade Oil Corp.'s No. 7 Dora Roberts, 330 ft. S and 2,310 ft. W of NE cor. Sec. 137, Blk. 29, W.&N.W.R.R. Sur. ..... Drlg. 820 ft.

American Maracaibo Co.'s No. 1 Settles-D, 330 ft. S and 1,650 ft. E of NW cor. Sec. 158, Blk. 29, W.&N.W. R.R. Sur. ..... Spudded and shut down.

American Maracaibo Co.'s No. 4 Settles-C, 1,373 ft. S and 3,023 ft. E of NW cor. Sec. 6, Blk. 32, Twp. 2s.... Drlg. 1,813 ft.

American Maracaibo Co.'s No. 5 Settles-C, 330 ft. S and W of NE cor. Sec. 6, Blk. 32, Twp. 2s, T.&P. ..... Rigging up.

Bristow & Merrick's No. 10 Hooks, 660 ft. S and 2,440 ft. E of NW cor. Sec. 140, Blk. 29, W.&N.W.R.R. Sur... Drlg. 1,795 ft.; rigging up standard tools.

California Co.'s No. 1 Settles, 2,310 ft. N and W of SE Sec. 158, Blk. 28, W.&N.W. Sur. ..... Set 8-in. casing 2,930 ft.

Coyle & Concord Oil Co.'s No. 6 D. Roberts, 1,650 ft. S and 150 ft. W of NE cor. Sec. 156, Blk. 29, W.&N.W. R.R. Sur. ..... Shut down 1,550 ft.

Cranfill & Reynolds' No. 1 Kloh-Rumsey, 353 ft. N and 150 ft. W of SE cor. Sec. 3, Blk. 32, Twp. 2s, T.&P.R.R. Sur. ..... Drlg. 725 ft.

Empire Gas & Fuel Co.'s No. 2 Clay, 785 ft. N and 1,570 ft. W of SE cor. Sec. 127, Blk. 29, W.&N.W.R.R. Sur... Set 8-in. casing 1,440 ft.; drlg. 1,735 ft.

F. H. E Oil Co.'s No. 11-B Dora Roberts, 1,700 ft. S and 2,310 ft. E of NW cor. Sec. 137, Blk. 29, W.&N.W. Sur. ..... Shut down 259 ft.

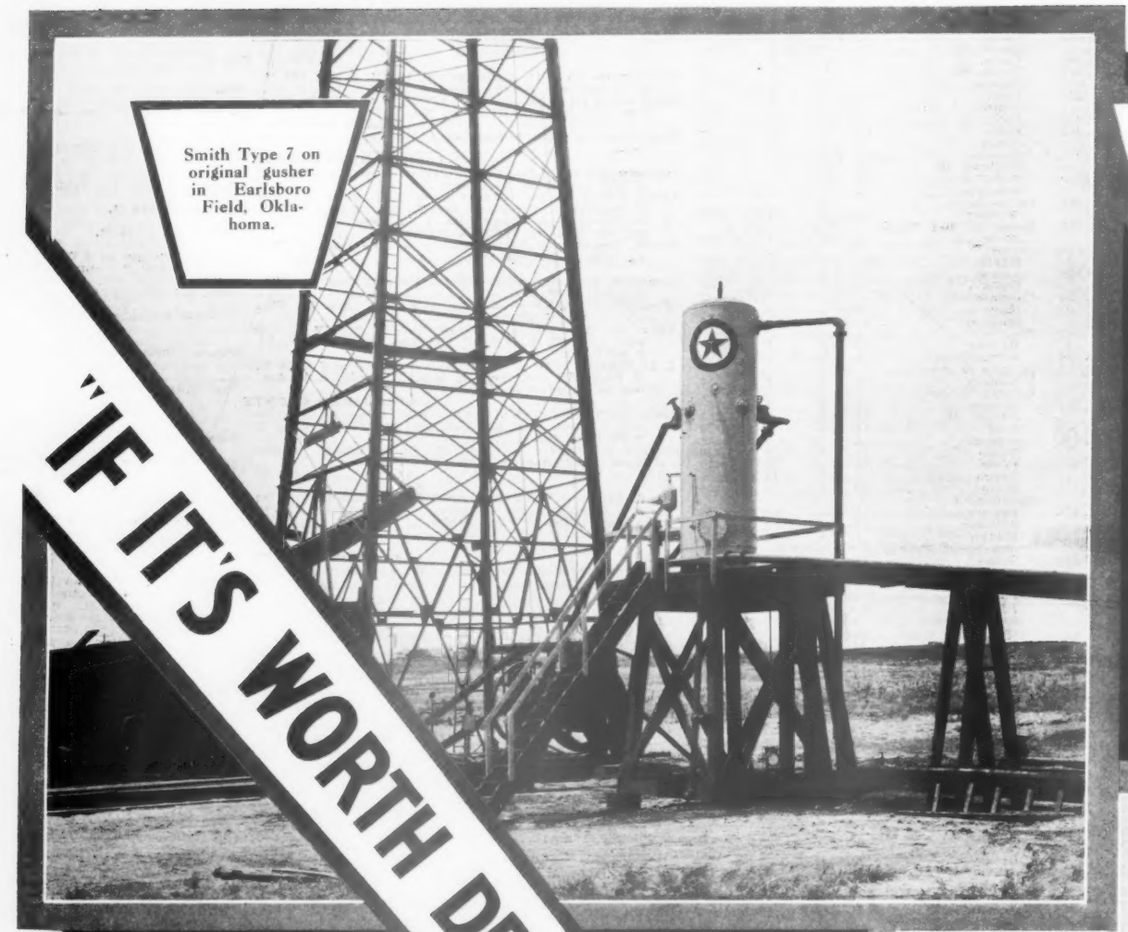
F. H. E Oil Co.'s No. 5-D Dora Roberts, 2,310 ft. S and 1,650 ft. E of NW cor. Sec. 136, Blk. 29..... Set 6-in. casing 2,930 ft.; shut down.

Green Oil Co. et al's No. 1 J. W. Furrh, C SW cor. Sec. 11, Blk. 31 ..... Top lime 2,100 ft.; set 6-in. casing 2,865 ft.; shut down 3,502 ft.

Green et al's No. 1 Slaughter, C SW Sec. 32, Blk. 31, Twp. 3n, T.&P.R.R. Sur. ..... Rig.

Group 1 Oil Co. & Marland Prod. Co.'s No. 1 Overton, 1,650 ft. N and 2,310 ft. W of SE cor. Sec. 5, Blk. 32, Twp. 2s, T.&P. Sur. ..... Drlg. 1,400 ft.

Group No. 1 & Marland Prod. Co.'s No. 5 Settles, 2,310 ft. S and 330 ft. E of NW cor. Sec. 133, Blk. 29, W.&N.W.R.R. Sur. ..... Rigging up standard tools 2,125 ft.



Smith Type 7 on original gusher in Earlsboro Field, Oklahoma.

"IF IT'S WORTH DRILLING FOR, IT'S WORTH SAVING"

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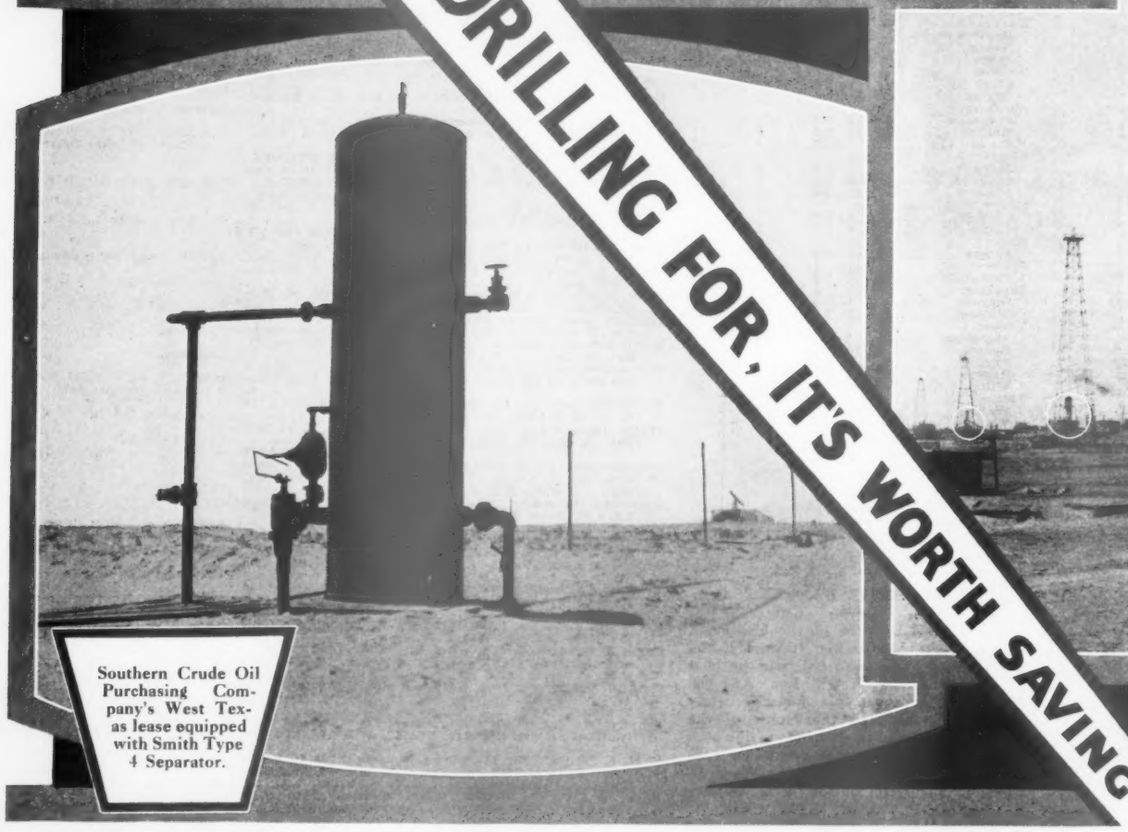

Southern Crude Oil Purchasing Company's West Texas lease equipped with Smith Type 4 Separator.

THERE'S A TYPE FOR EVERY SERVICE A

HOUSTON FORT WORTH SHREVEPORT

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EPARORS

Prairie Oil & Gas Company's Wolf No. 3, St. Louis, Oklahoma. This lease has four wells all equipped with Smith Type No. 1 Separators.

"IF IT'S WORTH DRILLING FOR, IT'S WORTH SAVING"

Gypsy Oil Company's Mission lease equipped with three Smith Type 7 Separators.

E A SIZE FOR EVERY PRODUCTION NEED

TULSA LOS ANGELES NEW YORK

Group No. 1 & Marland Prod. Co.'s No. 6 Settles, 2,310 ft. N, 320 ft. E of SW Sec. 133, Blk. 29.....Drlg. 1,972 ft.
Group No. 1 and Marland Prod. Co.'s No. 7 Settles, 330 ft. S and E of NW cor. Sec. 133, Blk. 29, W.&N.W. R.R. Sur.....Shut down 173 ft.
L. C. Harrison et al's No. 1 G. M. Podge Est., SE cor. Sec. 9, Blk. 30, Twp. 1s, T.&P. Sur.....Hole full salt water 1,475-1,505 ft.; top lime 1,825 ft.; show oil 2,972-74 ft.; hole full fluid 3,257 ft.; total depth 3,257 ft. Plugged back to 3,000 ft. to shoot.
Hyer & Yates' No. 3 Clay, 990 ft. S and 2,310 ft. W of NE cor. Sec. 155, Blk. 29, W.&N.W. Sur.....Drlg. 1,855 ft.; rigging up standard tools.
Hyer & Yates' No. 4 Clay, 990 ft. S and 1,650 ft. W of NE cor. Sec. 155, Blk. 29.....Drlg. 945 ft.
Humble Oil & Ref. Co.'s No. 1 H. R. Clay, 990 ft. S and 330 ft. E of NW cor. Sec. 138, Blk. 29, W.&N.W. Sur.....Drlg. 1,500 ft.
Humble Oil & Ref. Co.'s No. 2 Clay, 330 ft. N and 2,310 ft. E of SW cor. Sec. 138, Blk. 29, W.&N.W. R.R. Sur.....Drlg. 1,520 ft.
Magnolia Pet. Co.'s No. 13 Dora Roberts, 2,440 ft. N and 1,650 ft. E of SW cor. Sec. 136, Blk. 29, W.&N.W. Sur.....Rigging up standard tools 2,827 ft.; shut down.
Magnolia Pet. Co.'s No. 18 D. Roberts, 405 ft. N and 330 ft. E of SW cor. Sec. 135, Blk. 29, W.&N.W. R.R.....Drlg. 310 ft.
Marland Prod. Co.'s No. 12 Clay-A, 250 ft. S and 1,533 ft. W of NE cor. Sec. 139, Blk. 29, W.&N.W. Sur.....Drlg. 1,794 ft.
Marland Oil Co.'s No. 3-C Chalk, 660 ft. S and 2,440 ft. W of NE cor. Sec. 140, Blk. 29, W.&N.W. Sur.....Cleaning out 1,833 ft.
Marland Prod. Co.'s No. 3 Clay-F, 250 ft. S and 660 ft. W of NE cor. Sec. 138, Blk. 29, W.&N.W.R.R. Sur.....Drlg. 2,165 ft.
Marland Prod. Co.'s No. 7 Clay, 990 ft. S and W of NE cor. Sec. 155, Blk. 29, W.&N.W.R.R. Sur.....Drlg. 1,442 ft.
Marland Prod. Co.'s No. 3 Clay-G, 786 ft. N and 1,570 ft. E of SW cor. Sec. 126, Blk. 29, W.&N.W.R.R. Sur.....Drlg. 1,777 ft.
Marland Oil Co.'s No. 8-A Settles, 2,310 ft. N and E of SW cor. Sec. 158, Blk. 29, W.&N.W. Sur.....Location.
Midwest Exp. Co.'s No. 2 Clay-C, 330 ft. N and 1,650 ft. W of SE cor. Sec. 138, Blk. 29, W.&N.W.R.R. Sur.....Drlg. 1,200 ft.
Midwest Exploration Co.'s No. 3 Clay-C, 330 ft. N and 990 ft. W of SE cor. Sec. 138, Blk. 29, W.&N.W.R.R. Sur.....Shut down 260 ft.
Moody Oil Co.'s No. 15 Roberts-B, 2,310 ft. S and 380 ft. E of NW cor. Sec. 137, Blk. 29, W.&N.W.R.R. Sur.....Drlg. 2,300 ft.
Moody Oil Corp.'s No. 13 D. Roberts, 2,310 ft. S and 2,260 ft. E of NW cor. Sec. 137, Blk. 29, W.&N.W.R.R. Sur.....Location.
Moody Oil Corp.'s No. 10 Roberts-E, 2,310 ft. S and 280 ft. W of NE cor. Sec. 136, Blk. 29, W.&N.W.R.R. Sur.....Drlg. 1,590 ft.
Merrick & Bristow's No. 8 Dora Roberts, 990 ft. N and 330 ft. E of SW cor. Sec. 137, Blk. 29, W.&N.W. Sur.....Cem. 8¼-in. 1,929 ft.; rigging up standard tools 1,929 ft.
Merrick & Lamb's No. 7 Clay, 250 ft. N and 1,535 ft. W of SE cor. Sec. 126, Blk. 29, W.&N.W.R.R. Sur.....Set 8-in. casing 1,000 ft.
Phillips Pet. Co.'s No. 1 J. Thomas, 330 ft. N and W of SE cor. Sec. 13, Blk. 33, Twp. 1n, T.&P. Sur.....Topped lime 3,030 ft.; hole full sulphur water; shut down 4,050 ft.
Pure Oil Co.'s No. 11 Chalk, 2,310 ft. N and 1,060 ft. W of SE cor. Sec. 125, Blk. 29, W.&N.W.R.R. Sur.....Drlg. 1,475 ft.
Schermerhorn Oil Co.'s No. 4 Roberts-A, 2,304 ft. S and 2,306 ft. W of NE cor. Sec. 137, Blk. 29, W.&N.W. R.R. Sur.....Drlg. 2,400 ft.
Schermerhorn Oil Co.'s No. 5 Roberts-A, 1,650 ft. S and 2,250 ft. W of NE cor. of Sec. 137, Blk. 29, W.&N.W. Sur.....Drlg. 1,580 ft.
Shell Pet. Corp.'s No. 1 Settles, 990 ft. E and 330 ft. N of SW cor. Sec. 125, Blk. 29.....Cemented 8¼-in. casing 2,141 ft.; drlg. 2,800 ft.
Superior Oil Co.'s No. 14 Dora Roberts-B, 2,310 ft. E and 380 ft. S of NW cor. Sec. 137, Blk. 29, W.&N.W. Sur.....Location.
Superior Oil Co.'s No. 15 Dora Roberts-B, 2,310 ft. S and 380 ft. E of NW cor. Sec. 137, Blk. 29, W.&N.W.R.R. Sur.....Location.
Taylor-Link Oil Co.'s No. 2 Kloh-Rumsey, 1,884 ft. E and 150 ft. N of SW cor. Sec. 3, Blk. 32, Twp. 2s, T.&P.R.R. Sur.....Cleaning out 2,340 ft. after shot.
Ward Oil Co.'s No. 3 Dora Roberts, 2,310 ft. N and E of SW cor. Sec. 137, Blk. 29.....Set 6-in. casing 2,951 ft.; preparing to pump.
Ward Oil Co.'s No. 5 Roberts, 1,650 ft. N and 330 ft. E of SW cor. Sec. 137, Blk. 29.....Drlg. 2,937 ft.

### HUDSPETH COUNTY

American Land Co.'s No. 1 Lockhart & Roseborough, C SE Sec. 5, School Blk. 21.....Total depth 260 ft.; shut down; tools moved off.
California Co.'s No. 1 University, 3,821 ft. N and 2,554 ft. E of SW cor. Sec. 19, Blk. E.....Drlg. 598 ft.
Western States Oil Co.'s No. 1 Moore, C SE Sec. 16, Blk. 71, Twp. 6, T.&P. Sur.....Straightreaming 2,700 ft.; total depth 2,865 ft.
Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW Sec. 12, Blk. 18.....Hole full water 2,945 ft.; underreaming 8¼-in. casing at 2,840 ft.; trying to get water shut off; shut down 3,140 ft.; trying to pull casing.

### IRION COUNTY

Fuhrman Pet. Co.'s No. 1 J. O. Suggs, Lease 1, C SE Sec. 3,024, Blk. 24, H.&T.C. Sur.....Rig.
Fuhrman Pet. Co.'s No. 1 J. D. Suggs, Lease 2, C SW Sec. 3,009, Blk. 24, H.&T.C. Sur.....Location.
Fuhrman Pet. Co.'s No. 1 J. D. Suggs, Lease 3, C SE Sec. 3,009, Blk. 24, H.&T.C. Sur.....Drlg. 1,210 ft.
Kimbrough & Flinchbaugh's No. 1 Tankersley, 160 ft. S and 200 ft. W of NE cor. Sec. 712, Ford Willig Sur.....Spudding.
Kimbrough & Tuel's No. 1 J. M. Nutt, 1,920 ft. S. 200 ft. E of NW cor. Sec. 5, Gonzales Co. School Land.....Set 6-in. casing 1,360 ft.; show oil and gas; shut down 1,400 ft.
Pecos Valley Oil Co.'s No. 1 Stocks, 2,500 ft. N and 1,250 ft. W of SE cor. Sam Wallstein Sur. No. 746.....Location.
Mertzon Interests' No. 1 Harlan Horney, 2,440 ft. N and 150 ft. from W lines of Sec. Z, Blk. 3, H.&T.C. Sur.....Shut down 1,226 ft.; increase in oil.
Signal Oil Co.'s No. 2 Suggs, 5,240 ft. from N line and 99¢ ft. from W line, Sec. 23, Blk. 27, H.&T.C. Sur.....Top salt 760 ft.; set 15-in. casing 1,360 ft.
Sun Oil Co.'s No. 1 Tankersley, 2,128 ft. N and 1,173 ft. E of SW cor. Sec. 8, G.C.&S.F. Sur.....Shut down 1,135 ft.
F. E. Webb et al's No. 1 J. M. Nutt.....Shut down 3,240 ft.
Wesley West et al's No. 1 J. D. Suggs, SE NW SE Sec. 19, Blk. 7, H.&T.C. Sur.....Top pay 3,368 ft.; swabbed 35 bbls. oil and 40 bbls. water; 35.8 gravity oil; show oil 5,480-83 ft.; show oil 5,660-70 ft.; drlg. 5,800 ft.

### JEFF DAVIS COUNTY

J. K. Hughes Dev. Co.'s No. 2 Means, 1,622 ft. N line, 600 ft W line Sec. 345, H.&T.C. Sur.....Show gas 3,271 ft., black lime; slight show gas; drlg. 3,910 ft.

### JONES COUNTY

Anna Belle Oil Co.'s No. 1 Bickley, 330 ft. S and E of NW cor. SE NE Sec. 50, Blk. 18, T.&P. Sur.....Rig.
E. P. Campbell et al's No. 2-C Herndon, 330 ft. N and E of SW cor. NW Sec. 6, M.E.P.&P. Sur.....Drlg. 2,340 ft.
Cosden & Co.'s No. 1 Brown, 200 ft. N and 330 ft. W of SE cor. J. H. Grayson Sur.....Drlg. 2,260 ft.
Cosden & Herbert Oil Co.'s No. 1 Bickley, 320 ft. N and 319 ft. E of SW cor. S half NW Sec. 50, Blk. 18, T.&P. Sur.....Rig.
Cosden-Herbert et al's No. 3 Bickley, 330 ft. N and W of SE cor. of S half NW Sec. 50, Blk. 18.....Location.
Cosden & Herbert Oil Co.'s No. 6 Bickley, 330 ft. S and 319 ft. E of NW cor. S half NW of Sec. 50, Blk. 18, T.&P. Sur.....Drlg. 2,095 ft.
Grisham & Hunter's No. 1 Tiner, 311 ft. N and 330 ft. W of SE cor. Gabriel Zumwalt Sur.....Drlg. 2,325 ft.
Marland Prod. Co.'s No. 7 Mason, 330 ft. S and 990 ft. W of NE cor. S half NE Sec. 18, Blk. 19, T.&P. Sur.....Drlg. 1,980 ft.
Mid-Sun Oil Corp.'s No. 1 George Hoehn, 660 ft. N and W of SE cor. SE 40 ac. of N 160 ac. of W 320 ac. of A. Crain Sur. A-162.....Drlg. 2,407 ft.
McClanahan et al's No. 1 Hall, 150 ft. N and E of SW cor. of Hall 220-acre tract, C.&M.R.R. Co. Sur.....2¼ bailers oil per hour 1,604 ft.; reaming 6-in.
McGinley Corp.'s No. 1 Whittemore, 660 ft. N and W of SE cor. SE NE Sec. 39, B.B.B.&C.....Drlg. 705 ft.
McMan Oil & Gas Co.'s No. 2 Bickley, 330 ft. N and E of SW cor. of NE Sec. 50, Blk. 18, T.&P.R.R. Sur.....Rig.
McNeeley et al's No. 1 Roscoe Bland, 1,175 ft. N and 240 ft. W of SE cor. Subdivision 20, A-164, DeWitt Co. School Land.....Spudded and shut down.
Phillips Pet. Co.'s No. 6 Mason, 330 ft. S and 300 ft. W of NE cor. W half of NE Sec. 18, Blk. 19, T.&P. Sur.....Underreaming 8-in. 2,275 ft.
Roberts Oil Corp.'s No. 8 Grayson, 2,083 ft. N and 330 ft. W of SE cor. of their lease out of Sec. 13, Blk. 19, T.&P.....Drlg. 2,470 ft.
Roeser-Pendleton & Landreth Prod. Co.'s No. 4 Grayson-A, 315 ft. S and 990 ft. W of NE cor. their lease out of Sec. 13, Blk. 19, T.&P.R.R. Sur.....Drlg. 1,950 ft.
Sedwick Oil & Gas Co.'s No. 1 Routh, 1,250 ft. N, 2,500 ft. W SE cor. 299-acre tract, Austin & Williams Sur. 355-A-7.....Drlg. 1,090 ft.
Sedgwick Oil & Gas Co.'s No. 1 Brown, 660 ft. N and 1,320 ft. E of SW cor. Sec. 9, Blk. 1, T.&N.O. Sur.....Location.
Snowden & McSweeney's No. 6 Bickley, 330 ft. N and 319 ft. E of SW cor. N half Sec. 50, Blk. 18, T.&P. R.R. Sur.....Drlg. 2,135 ft.
U. L. Tomberlin's No. 1 Horn, 1,980 ft. N and 600 ft. E of SW cor. of 502 ac. of Penney Sur. A-283.....Spudded and shut down.

### LOVING COUNTY

Lockhart & Co.'s No. 1 R. A. Cox et al, 660 ft. S and 1,980 ft. W of NE cor. Sec. 20, Blk. 26, T.&P. Sur.....Location.
Lockhart & Co.'s No. 1 Hazell, 2,792 ft. SW of NE line and 660 ft. NW of SE line Sec. 84, Blk. 33, H.&T.C.R.R. Sur.....Rigging up standard tools.
Lockhart & Co.'s No. 1 H. L. Lepp, 320 ft. each way from S cor. of Sec. 3, Blk. 2, W.&N.W. Sur.....Top salt 715 ft.; drlg. 1,060 ft.
Lockhart & Co.'s No. 1 Hubbard, 2,640 ft. NE and 660 ft. NW Sec. 84, Blk. 33, H.&T.C.R.R. Sur.....Cem. 10-in. casing 5,381 ft.
Lockhart & Co.'s No. 2 Hubbard, 1,660 ft. from NE line and 330 ft. from SE line of Sec. 83, Blk. 33, H.&T.C.R.R.....Rig.

### MITCHELL COUNTY

California Co.'s No. 6 Foster, Lease 1, 990 ft. N and 2,310 ft. E of SW cor. Sec. 6, Blk. 29, Twp. 1s, T.&P. Sur.....Tested 35 bbls. 2,573-2,616 ft.; cleaning out 2,855 ft.
Magnolia Pet. Co.'s No. 6 Foster, 1,980 ft. N and E of SW cor. Sec. 17, Blk. 29, Twp. 1s, T.&P.R.R. Sur.....Drlg. 1,390 ft.
Simms Pet. Co.'s No. 1 Elwood, C SE of Sec. 29, Blk. 18, S.P.R.R. Sur.....Rebuilding rig; 2,000,000 ft. gas; set 12-in. casing 604 ft.
Teas & Wheeler's No. 1 Radford, 1,320 ft. N and W of Sec. 1, Blk. 27, T.&P. Sur.....Four bailers salt water per hr. 3,405 ft.; drlg. 3,670 ft.; straightening hole.

### NOLAN COUNTY

L. G. Bradstreet et al's No. 1 Kuteman, C NW Sec. 95, Blk. X, T.&P. Sur.....Rig.
C. M. Root et al's No. 1 Simpson, 330 ft. S and W of NE cor. SE Sec. 33, Blk. 19, T.&P. Sur.....Drlg. 2,845 ft.; oil shows 2,840 ft.
W. E. O. & R. Co.'s No. 1 Allyn, 600 ft. E and 1,720 ft. N of SW cor. Sec. 48, Blk. 20, T.&P. Sur.....Underreaming 6⅝-in. casing 1,5[illegible] ft.; drlg. 2,940 ft.; 5 bailers water per hr. 2,938 ft.; underreaming 3,010 ft.

### PECOS COUNTY

Alexander & Lyle's No. 1 Myrtle Sellman, C SW SE Sec. 20, Blk. Z, T.S.Ry. Sur.....Top salt 814 ft.; top lime 1,0[illegible] ft.; 3,400,000 ft. gas from 1,61[illegible] 26 ft.; spraying very little oil; sulphur water 1,652 ft.; shut down 1,655 ft.
M. H. Black's No. 1 P.V.O. Co., 2,310 ft. from SE and 1,650 ft. from SW lines Sec. 22, Blk. 10, H.&G.N. Sur.....Location.
Buell & Hagan's No. 1 University-B, 330 ft. N and 2,310 ft. W of SE cor. Sec. 36, Blk. 18, University Land.....Location.
California Co.'s No. 1 Smith, Lease 4, 1,010 ft. from N and E line Sec. 15, Blk. 194, G.C.&S.F. Sur.....Shut down 1,786 ft.
Crowley's No. 1 Heiner, 2,490 ft. each way from N and E lines Sec. 589, G.C.&S.F.R.R. Sur.....Drlg. 100 ft.
The California Co.'s No. 3 Smith, Lease 1, 1,789 ft. from N and 1,005 ft. from W lines, Sec. 21, Blk. 194, G.C.&S.F.R.R. Sur.....Set 6-in. casing 1,385 ft.; drlg. plug.
California Co.'s No. 7 Smith, Lease 1, 998 ft. from S and 1,738 ft. from W lines, Sec. 23, Blk. 194, G.C.&S.F.R.R. Sur.....Drlg. 1,692 ft.
M. C. Dibble & Hale's No. 1 Bonebrake, Sec. 115, Blk. 8, H.&G.W. Sur., elev. 2,555 ft.....Top lime 1,305 ft.; set 6-in. casing 1,610 ft.; pulling 8¼-in. casing; total depth 2,004 ft.
Ditto Oil Co.'s No. 1 J. M. Montgomery, Sec. 104, Blk. 331, A-16,387.....Shut down 660 ft.
Doran & McGee's No. 1 P.V.O. Co., 150 ft. from SE and SW lines Sec. 22, Blk. 10, H.&G.N. Sur.....Location.
Grayburg Oil Co.'s No. 1 University, 990 ft. S and 330 ft. W of NE cor. Sec. 2, Blk. 17, University.....Drlg. 96 ft.
Gulf Prod. Co.'s No. 16 Smith-B, 990 ft. S and 990 ft. E of NW cor. Sec. 22, Blk. 194, G.C.&S.F.R.R. Sur.....Rigging up.
Marland Prod. Co.'s No. 1 Blakeslee, 330 ft. N of middle of S line Sec. 100, Blk. 3, H.&G.N.....Drlg. 1,030 ft.
Matador Oil Co.'s No. 3 Smith, 2,310 ft. from N and 990 ft. from E lines, Sec. 24, Blk. 194, G.C.&S.F.R.R. Sur.....Moving in machine.
Mauch & Kroger's No. 1 Holmes, Sec. 5, Blk. 178, T.C. Sur.....Shut down 1,010 ft.
McCarty Oil Co.'s No. 1 A. A. Gray, 1,520 ft. from S and 150 ft. from W lines Sec. 591, Abst. 3,010.....Total depth 1,162 ft.; top pay 1,152 ft.
McMann Oil & Gas Co.'s No. 5 Smith-C, 2,600 ft. S and 1,740 ft. from W line of Sec. 25, Blk. 194, G.C.&S.F. Sur.....Location.
Mid-Kansas Oil & Gas Co.'s No. 5 Smith, 250 ft. S and 6,821 ft. E of NW cor. of Sec. 31, Blk. 194, G.C.&S.F. R.R. Sur.....Rigging up.
Mid-Kansas Oil & Gas Co.'s No. 8 Yates-H, 797 ft. N and 3,528 ft. E of SW cor. Sec. 32, Blk. 194, G.C.&S.F. R.R. Sur.....Drlg. 1,320 ft.
Mid-Kansas Oil & Gas Co.'s No. 28 Yates, 811 ft. N and 871 ft. E of NW cor. Sec. 60, Blk. 1, I.&G.N. Sur.....Drlg. 1,225 ft.
Pecos Valley Oil Co.'s No. 2 fee, 1,620 ft. from SW and 1,320 ft. from NW Sec. 22, Blk. 10, H.&G.N.R.R. Sur.....Top salt 1,107 ft.; shut down 1,[illegible] ft.; total depth 1,625 ft.
Perrin et al's No. 1 Eaton, 150 ft. each way from NE and NW lines Sec. 27, Blk. 3, H.&T.C. Sur.....Rigging up.
Phillips Pet. Co.'s No. 1 J. L. Nutt, 2,310 ft. from W and 330 ft. from S lines Sec. 9, Blk. 125, T.&St.L. Sur.....Drlg. 2,720 ft.
Phillips Pet. Co.'s No. 1 Ramsey, 990 ft. from N and E lines, Sec. 17, Blk. 194, G.C.&S.F. Sur.....Drlg. 740 ft.
Stein & McGee's No. 1 Louis Paterson, 150 ft. SE of NW line, 150 ft. NE of SW Sec. 34, Blk. 10, H.&G.N.....Location.
B. J. Spikes' No. 1 George Brown.....Shut down 700 ft.
Schumaker et al's No. 1 Williams et al, 330 ft. N of middle of S line Sec. 1, Blk. 117, G.C.&S.F.....Shut down 700 ft.
Southern C. O. P. Co.'s No. 1 Scharbauer Cattle Co., SW cor. Sec. 21, Blk. 134, T.&S.L. Sur.....Show gas 1,455-60 ft.; water 3,[illegible] ft.; drlg. 3,675 ft.
Talbot & Dittman's No. 1 Unsicker, 1,320 ft. from E and 660 ft. from S lines, Sec. 25, Blk. 10, H.&G.N.....Shut down 1,365 ft.
Transcontinental Oil Co.'s No. 1 University, NE NW SW Sec. 18, Blk. 18.....Top lime 1,155 ft.; drlg. 4,190 ft.
Trees Oil Co.'s No. 1 Trees, 330 ft. from N and E L of Sec. 63, Blk. 8.....Location.

World Oil Co.'s No. 1 Kloh, Sec. 47, Blk. 45, Twp. 8, T.P.R.R. Sur., elev. 2,810 ft. ..... Shut down 3,105 ft.

**PRESIDIO COUNTY**

Copeland Oil Co.'s No. 1 Smith, C Sec. 17, Certificate 463, or Blk. 351, G.C.&S.F.R.R. ..... Spudded and shut down.
Phillips Pet. Co., Empire G. & F. Co., Delmar Oil Co. and C. E. Miller's No. 1 Tootle Est., C NE Sec. 75, Blk. 3, D.&P.R.R. Sur. ..... Show wet gas 1,270 ft.; drlg. 2,277 ft.
J. C. Brite's No. 1 Lee, Sec. 50, Blk. 12, G.H.&S.A. Sur., center of section ..... Shut down 4,152 ft.; show oil 4,130 ft.; set 6-in. casing 4,152 ft.; plugged back to 4,150 ft. and shot; cleaning out.

**REAGAN COUNTY**

Big Lake Oil Co.'s No. 1-C University, 2,598 ft. S and 350 ft. W of NE cor. Sec. 1, Blk. 2, University Land .. Rig (cable tools).
Big Lake Oil Co.'s No. 2-C University Land, 2,109 ft. N and 926 ft. W of SE cor. Sec. 1, Blk. 2, University Land ..... Rig.
Big Lake Oil Co.'s No. 158 University, 2,090 ft. N and 990 ft. W SE cor. Sec. 1, Blk. 2. ..... Spud.
Big Lake Oil Co.'s No. 160 University, 1,320 ft. N and 1,040 ft. W of SE cor. Sec. 2, Blk. 2. ..... Rig.
Big Lake Oil Co.'s No. 161 University, 1,720 ft. N and 1,720 ft. E of SW cor. Sec. 1, Blk. 2. ..... Rig.
Big Lake Oil Co.'s No. 162 University, 920 ft. S and 1,720 ft. W of NE cor. Sec. 36, Blk. 1. ..... Cellar.
Big Lake Oil Co.'s 163 University, 1,930 ft. S and 1,720 ft. W of NE cor. Sec. 1, Blk. 2 ..... Rig.
Big Lake Oil Co.'s No. 164 University, 2,240 ft. N and 440 ft. E of SW Sec. 12, Blk. 2. ..... Rig.
Big Lake Oil Co.'s No. 165 University, 2,240 ft. N and E of SW cor. Sec. 12, Blk. 2. ..... Cellar.
Big Lake Oil Co.'s No. 166 University, 920 ft. S and 2,540 ft. E of NW cor. Sec. 12, Blk. 2. ..... Location.
The California Co.'s No. 5 University, 2,310 ft. from N and E lines Sec. 16, Blk. 7, University Land ..... Top salt 1,280 ft.; drlg. 2,800 ft.
A. V. Oberholtzer's No. 1 Talley, 1,650 ft. each way from S and W lines Sec. 6, G.C.&S.F.R.R. Sur. ..... Bldg. rig.
Tyson O. & L. Co.'s No. 1-B University Group 1. ..... Top pay 6,250 ft.; hole full of oil, well made two small heads oil sand 8,482 ft.; total depth 8,525 ft.; flowing 1,930 bbls. daily.

**REEVES COUNTY**

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Public School Land, elev. 2,847 ft. ..... Total depth 2,900 ft.; shut down.
Southern Crude O. P. Co.'s No. 1 Kloh-Rumsey, 2,310 ft. N and W SE cor. Sec. 23, Blk. 51. ..... Shut down 240 ft.
David R. Thompson's No. 1 A. A. Eddins. ..... Fishing casing 5,658 ft.
Robert Penn et al's No. 1 Bowles, 2,310 ft. SW of NE cor. Sec. 36, Blk. 50, Twp. 8, T.&P.R.R. Sur. ..... Top salt 1,725 ft.; drlg. 3,124 ft.
Lee O. White et al's No. 1 Kloh-Rumsey, 660 ft. S and E of NW cor. Sec. 5, Blk. 51, Twp. 10, T.&P. Sur. .... Spudded and shut down.

**RUNNELS COUNTY**

Boyce et al's No. 1 E. O. Lange, 2,300 ft. S and 6,900 ft. W of NE cor. Austin & Williams Sur. No. 262. ..... Shut down 1,350 ft.
Foster et al's No. 1 Currie, 1,866 ft. SE of NW line, 335 ft. SW of NE L Gray Carroll Sur. ..... Shut down 360 ft.
R. D. Hamilton et al's No. 1 A. Spill, 1,320 ft. S and W of NE cor. A. Spill 891 acres, out of Thomas R. Webb Sur. 358 ..... Shut down 100 ft.
Independent Oil & Gas Co.'s No. 1 Will Rollwitz, 3300 ft. S and W of NE cor. S half M. Salmas Sur. No. 20 ..... Rigging up.
Harland Prod. Co.'s No. 1 August Herring, 330 ft. S and 1,650 ft. W of NE cor. Sec. 39, E.T.R.R. Co. Sur. .. Drlg. 700 ft.
McLean et al's No. 1 G. W. Clayton, 150 ft. N line, 270 ft. from W line Sec. 135, E.T.R.R. ..... Shut down 1,185 ft.
Morse & Tilton's No. 1 R. A. Stokes, 200 ft. S 600 ft. E of NW cor. G.C.&S.F. Sur. No. 2 ..... Drlg. 2,490 ft.; underreaming.
R. B. Summers et al's No. 1 J. W. Reese, M. J. Parramore Sur. 26 ..... Shut down 1,650 ft.
Tidal Oil Co. of Nevada's No. 1 W. E. Allen, 1,000 ft. N and W of SE cor. Sec. 1, H.E.&W.T. Sur. ..... Shut down 3,008 ft.

**SCHLEICHER COUNTY**

J. P. Long and O. C. Long's No. 1 W. H. Williams, NE cor. Sec. 28, H.E.&W.T.R.R. Sur. ..... Shut down 275 ft.

**SCURRY COUNTY**

J. B. Mims et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 2, H.&T.C. Sur. ..... Spudded and shut down.
G. E. Dieckman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... Shut down 1,810 ft.

**STERLING COUNTY**

T. & G. Oil Co.'s No. 1 W. L. Foster, C SE Sec. 20, Blk. 12, S.P.R.R. Sur. ..... Show oil 1,296-98 ft. and 1,356-58 ft.; drlg. 2,173 ft.
George L. Miller's No. 1 Foster, 3,690 ft. S and 1,397 ft. W of NE cor. Sec. 4, Blk. 31, T.&P. Sur. ..... Bldg. rig.

**SUTTON COUNTY**

Phillips Pet. Co.'s No. 1 A. G. Holman, 2,310 ft. S and 330 ft. W NE cor. Sec. 25, G.C.S.D.&N.G.R.R. Sur. ... Drlg. 5,810 ft.
L. G. Priest's No. 1 Allison, 1,320 ft. N and E of SW cor. Sec. 52, Blk. A, T.&P. Sur. ..... Shut down 530 ft.
Southern C. O. P. Co.'s No. 1 Allison, 2,310 ft. S and 330 ft. W of NE Sec. 41, Blk. K, G.H.&S.A. Sur. .... Drlg. 2,450 ft.

**TAYLOR COUNTY**

Grisham-Hunter Corp.'s No. 1 Campbell, 330 ft. S and E of NW cor. SW Sec. 65, Blk. 19, T.&C. Sur. ..... Shut down 1,400 ft.
T. B. Jameson's No. 1 Webb, 1,170 ft. S and W of NE cor. Sec. 46, Lunatic Asylum Land ..... Location.
Mid-Continent Oil & Gas Co.'s No. 1 Taylor, 990 ft. W 115 ft. N SE cor. 100-ac. tract, Sec. 18, Guadalupe School Land Sur. ..... 300 ft. oil 2,384-87 ft.; 700 ft. oil 2,445-50 ft.; total depth 2,461 ft.; swabbed 50 bbls. in 2 hrs.; let stand 1 hr. and swabbed 5 bbls.; now 5 bbls. daily.
Wentz Oil Corp.'s No. 1 Armour, 375 ft. N and 330 ft. W of SE cor. W half Sec. 16, Blk. 6, S.P.R.R. Sur. ..... Drlg. 915 ft.

**TERRELL COUNTY**

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M.-K.-T.R.R. Sur. ..... Spudded and shut down.
Kirk Pet. Trust Co.'s No. 1 Hamilton, C Sec. 6, Blk. D-7, E.L.&R.R. Sur. ..... Shut down 1,749 ft.
Mrs. J. B. McPhee's No. 1 Sam Belt, C Sec. 78, Blk. D-7, E.L.&R.R. Sur. ..... Location.
Allham Exploration Co.'s No. 1 Bassett, Sec. 76, Blk. Y, W. E. Robertson Sur. ..... Cem. 6⅝-in. casing 3,986 ft.; fishing 4,640 ft.
Woolley & Jones' No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&N.G.R.R. Sur. ..... Shut down 150 ft.

**TERRY COUNTY**

Engeland O. & P. Co.'s No. 1 Brownfield, C NW SW SW Sec. 7, Blk. 1-A, E.L.R.R. Sur. ..... Fishing baller 5,080 ft.

**TOM GREEN COUNTY**

Collins et al's No. 1 Jones, CSL Sec. 646, Shaffer Sur. ... Shut down 1,800 ft.
Fitzgerald & Taliaferro's No. 1 Bennett, C SW Sec. 1,033, E. H. Ringer ..... Shut down 1,920 ft.
F. P. Green et al's No. 1 fee, 575 ft. from N and 1,450 ft. from W lines Sec. 165, District 11, S.P.R.R. Co. Sur. ..... Shut down 1,931 ft.
Williams et al's No. 1 Willeke, 2,500 ft. N and 75 ft. E of SW cor. Sec. 3, Deaf & Dumb Asylum Land ..... Shut down 370 ft.

**UPTON COUNTY**

Texas Oil Co.'s No. 5 Shirk, 2,310 ft. N and 1,650 ft. W of SE cor. Sec. 35, Blk. 1, M.-K.-T.R.R. Sur. ..... Top salt 815 ft.; drlg. 1,875 ft.

**YOAKUM COUNTY**

Yoakley Oil Corp.'s No. 1 Knight, C NW Sec. 791, Blk. D, John Gibson Sur. ..... Shut down 365 ft.

**VAL VERDE COUNTY**

Independent Operators' No. 1 Whitehead, SE SE Sec. 30, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... Shut down 4,600 feet.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... Gas sand 2,491-2,520 ft.; tested 125,750 ft. gas; reset 8-in. 2,511 ft.; shut down 4,210 ft.
Producers Oil Co. et al's No. 1 Everett Bros., 2,310 ft. S and 330 ft. E of NW cor. Sec. 40, Blk. DB, C.C.S.D.&R.G.N.G. Sur. ..... Underreaming 2,115 ft.

Dyar Bros. et al's No. 1 Wilson, 6,830 ft. N NE cor. Sec. 1, T.&P. Sur., thence 1,680 ft. E Sec. 116, Blk. E, G.C.&S.F. Sur. ..... Show oil and gas 1,053 ft.; drlg. 2,705 ft.
Valvert Oil Corp.'s No. 1 Bassett, C NE Sur. 47, Blk. Y .. Set 15½-in. casing 767 ft.; set 10-in. casing 1,510 ft.; drlg. 3,580 ft.

**WARD COUNTY**

Gulf Prod. Co.'s No. 4 O'Brien et al, C NW SW Sec. 19, Blk. F, G.M.M.&M.A. Sur. ..... Rigging up standard tools.
E. B. Loveiace et al's No. 1 Redman, 1,980 ft. NE of SW line and 1,980 ft. SE of NW line, Sec. 162, Blk. 34, H.&T.C.R.R. ..... Running 15½-in. casing 304 ft.

**WINKLER COUNTY**

Amerada Pet. Corp.'s No. 3 Daugherty, NW cor. NE SE Sec. 3, Blk. 74 ..... Top lime 2,854 ft.; coring 3,184 ft.
American Maracaibo Co.'s No. 2 Hendricks-B, 1,980 ft. N and 1,650 ft. E of SW cor. Sec. 28, Blk. B-5 ..... Rig.
V. T. Bolin et al's No. 2 Brown, 2,000 ft. S and W of NE cor. Sec. 4, Blk. B-5, Public School Land ..... Shut down 210 ft. water.
Barnsdall Oil Corp.'s No. 1 Tobe Morton, 330 ft. N and E of SW cor. Sec. 26, Blk. B-12 ..... Oil show 3,070 ft.; set pipe 3,128 ft.; preparing to abandon 3,258 ft.
Barnsdall Oil Corp.'s No. 2 Tobe Morton, 1,650 ft. N and 330 ft. E of SW cor. Sec. 26, Blk. B-12 ..... Cem. 8¼-in. 2,758 ft.; top lime 2,571 ft.; rigging up standard tools.
Barnsdall Oil Corp.'s No. 3 Tobe Morton, 990 ft. N and 330 ft. E of SW cor. Sec. 26, Blk. B-12 ..... Cellar.
Empire Gas & Fuel Co.'s No. 3 Daugherty, 330 ft. N and 990 ft. E of SW cor. Sec. 3, Blk. 74 ..... Top lime 2,774 ft.; cem. 9-in. casing 2,751 ft.; set 6-in. casing 3,125 ft.; standardizing 3,140 ft.; total depth 3,195 ft.; plugging back to 3,177 ft.
Empire Gas & Fuel Co.'s No. 1-B Daugherty, 2,310 ft. S and 990 ft. W of NE cor. Sec. 3, Blk. 74 ..... Top lime 2,823 ft.; oil and gas show at 3,165 ft.; drlg. 3,376 ft.; flowing 15,000 bbls. daily; cem. 6⅝-in. casing 3,382 ft.
Gulf Prod. Co.'s No. 3 Cowden, 1,310 ft. N, 330 ft. E of SW of their 240-ac. tract, Sec. 3, Blk. B-12 ..... Top salt 1,300 ft.; drlg. 2,800 ft.; flowed 135 bbls. 6 hrs.
Gulf Prod. Co.'s No. 4 Cowden, 495 ft. N and 330 ft. E of SW cor. of 240-ac. lease, Sec. 3, Blk. B-12 ..... Drlg. 1,830 ft.
Gulf Prod. Co.'s No. 2 Hendricks, 1,320 ft. N and 330 ft. W of SE cor. NW Sec. 44, Blk. 26, School Land .. Top lime 2,837 ft.; cem. 6⅝-in. casing 2,839 ft.; drlg. plug.
Humble Oil & Ref. Co.'s No. 4 Hendricks-C, 2,200 ft. N and 330 ft. E of SW cor. Sec. 10, Blk. B-12 ..... Top lime 2,490 ft.; cem. 6⅝-in. casing 2,505 ft.; drlg. 2,685 ft.
Humble Oil & Ref. Co.'s No. 5 Hendricks-C, 2,200 ft. N and 2,310 ft. E of SW cor. Sec. 10, Blk. B-12 ..... Drlg. 2,695 ft.
Humble Oil & Ref. Co.'s No. 6 Hendricks-C, 1,320 ft. N and 2,310 ft. E of SW cor. Sec. 10, Blk. B-12 ..... Top lime 2,610 ft.; cem. 6⅝ in. 2,615 ft.
Humble Oil & Ref. Co.'s No. 7 Hendricks-C, 440 ft. S and 990 ft. E of NW Sec. 10, Blk. B-12 ..... Cem. 10-in. 190 ft.; drlg. 1,689 ft.
Humble Oil & Ref. Co.'s No. 8 Hendricks-C, 440 ft. S and 1,650 ft. E of NW Sec. 10, Blk. B-12 ..... Drlg. 2,573 ft.
Humble O. & R. Co.'s No. 9 Hendricks-C, 1,320 ft. N and 330 ft. E of SW cor. Sec. 10, Blk. B-12 ..... Drlg. 408 ft.
Independent Oil & Gas Co.'s No. 3-B Hendricks, NW W half SE Sec. 44, Blk. 26 ..... Drlg. 1,673 ft., anhydrite.
Prairie Oil & Gas Co.'s No. 6 Cowden, 440 ft. N and 990 ft. E of SW cor. Sec. 3, Blk. B-12, School Land ..... Drlg. 1,320 ft., anhydrite; cem. 8¼-in. casing 2,485 ft.
Prairie Oil & Gas Co.'s No. 1 Scarborough, 990 ft. N and 1,650 ft. W of SE cor. Sec. 1, Blk. C-22 ..... Cem. 12½-in. casing 260 ft.
Pure Oil Co.'s No. 1 Hendricks, NE SW Sec. 44, Blk. 26 .. Set 12½-in. casing 896 ft.; drlg. 2,290 ft.
Republic Prod. Co.'s No. 7-A Grisham-Hunter, 1,650 ft. N and E of SW cor. Sec. 45, Blk. 25, School Land.. Drlg. 1,800 ft.
Shell Pet. Co.'s No. 5 Scarborough, 330 ft. N and 990 ft. E of SW cor. Sec. 3, Blk. C-22 ..... Rigging up standard tools.
Skelly Oil Co.'s No. 1 Leek, 440 ft. N and 330 ft. E of SW cor. Sec. 22, Blk. 26, School Land ..... Drlg. 2,385 ft.
Skelly Oil Co.'s No. 1 Morton, 2,310 ft. N and 165 ft. W of SE cor. Sec. 27, Blk. B-12, School Land Sur. ..... Cellar.
Skelly Oil Co.'s No. 2 Hendricks-C, 1,320 ft. N and 2,310 ft. W of SE cor. Sec. 10, Blk. B-12 ..... Drlg. 250 ft.
Simms Oil Co. and Southwest O. P. Co.'s No. 1 George Sealey, 2,434 ft. S and 330 ft. W of NE cor. Sec. 50, Blk. F ..... Top lime 2,676 ft.; total depth 2,845 ft.; oil show 2,845 ft.; drlg. 2,909 ft.
Southern Crude O. P. Co.'s No. 6 Hendricks T-67-3-A, 990 ft. S and 1,650 ft. W of NE cor. Sec. 4, Blk. B-12 ..... Cem. 12½-in. casing 2,245 ft.
Southern Crude O. P. Co.'s No. 5 Hendricks T-67-F, 330 ft. N and 990 ft. W of SE cor. Sec. 33, Blk. B-5, School Land ..... Drlg. 1,608 ft.
Simms Pet. Co. et al's No. 2 Sealey, 2,434 ft. S and 990 ft. W of NE cor. Sec. 50, G.M.M.&A. Sur. ..... Rotary rig.
Southern C. O. P. Co. and Westbrook Thompson's No. 4 Hendricks T-88-B, 330 ft. S and 1,330 ft. E NW cor. Sec. 4, Blk. B-12, Public School Land ..... Top lime 2,721 ft.; drlg. 2,984 ft.
Southern Crude O. P. Co.'s No. 8 Hendricks T-88-C, 2,310 ft. S and 1,650 ft. E of NW cor. Sec. 28, Blk. B-5, School Land ..... Location.
Southern Crude O. P. Co.'s No. 2 Hendricks T-88-Q, 440 ft. S and 330 ft. E of NW Sec. 27, Blk. 26, School Land ..... Drlg. 2,880 ft.
Southern Crude O. P. Co.'s No. 1 Hendricks, T-88-CX, 440 ft. N and 330 ft. W of SE cor. Sec. 21, Blk. 26, School Land ..... Cem. 12½-in. casing 780 ft.; drlg. 1,163 ft.
Southern Crude O. P. Co.'s No. 7 Hendricks T-88-H, 2,310 ft. N and 990 ft. E of SW Sec. 28, Blk. B-5, School Land ..... Rig.
Southern C. O. P. Co.'s No. 6 Hendricks T-88-D, 440 ft. N and 1,320 ft. W of SE cor. Sec. 4, Blk. B-12 ..... Top lime 2,558 ft.
Southern C. O. P. Co.'s No. 3 Hendricks T-89-J, 2,200 ft. N and 330 ft. W of SE cor. Sec. 9, Blk. B-12, School Land ..... Drlg. 2,942 ft.
Texas Canadian Oil Co.'s No. 1 Kloh-Rumsey, 1,320 ft. N and E of SW cor. Sec. 35, Blk. 46, T.&P.R.R. Sur... Drlg. 780 ft.
Texon Oil & Land Co.'s No. 6 Grisham & Hunter-B, 1,320 ft. N and 990 ft. E of SW cor. Sec. 45, Blk. 26.. Drlg. 1,700 ft.

## WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 47)

**COCHRAN COUNTY**

V. T. Bolin et al's No. 1 C. C. Slaughter, 1,650 ft. E and 660 ft. S. of NW tract, League 118, Knox County School land ..... Rig and S.D.

**COTTLE COUNTY**

Explin. Co.'s No. 1 Richards ..... Drlg. 3,095 ft.
Explin. Co.'s No. 4 Matador Land & Cattle Co., C, Sec. 46, J. H. Stephens Sur. ..... Fishing 3,217 ft.
Sun Oil Co.'s No. 1 T. B. Yarborough, 495 ft. S and 2,460 ft. E NW cor. Sec. 551, Block H, W.&N.W. Sur... Drlg. 3,590 ft.

**DONLEY COUNTY**

Beaudoin et al's No. 1 Ball, 1,075 ft. from N line and 985 ft. from E line, Sec. 22, Blk. E, D.&P.R.R. Sur. ..... Location.
Marine Oil Co.'s No. 1 Sawyer C SW, Sec. 5, Blk. G, G.C.&S.F. Sur. ..... Building rig.

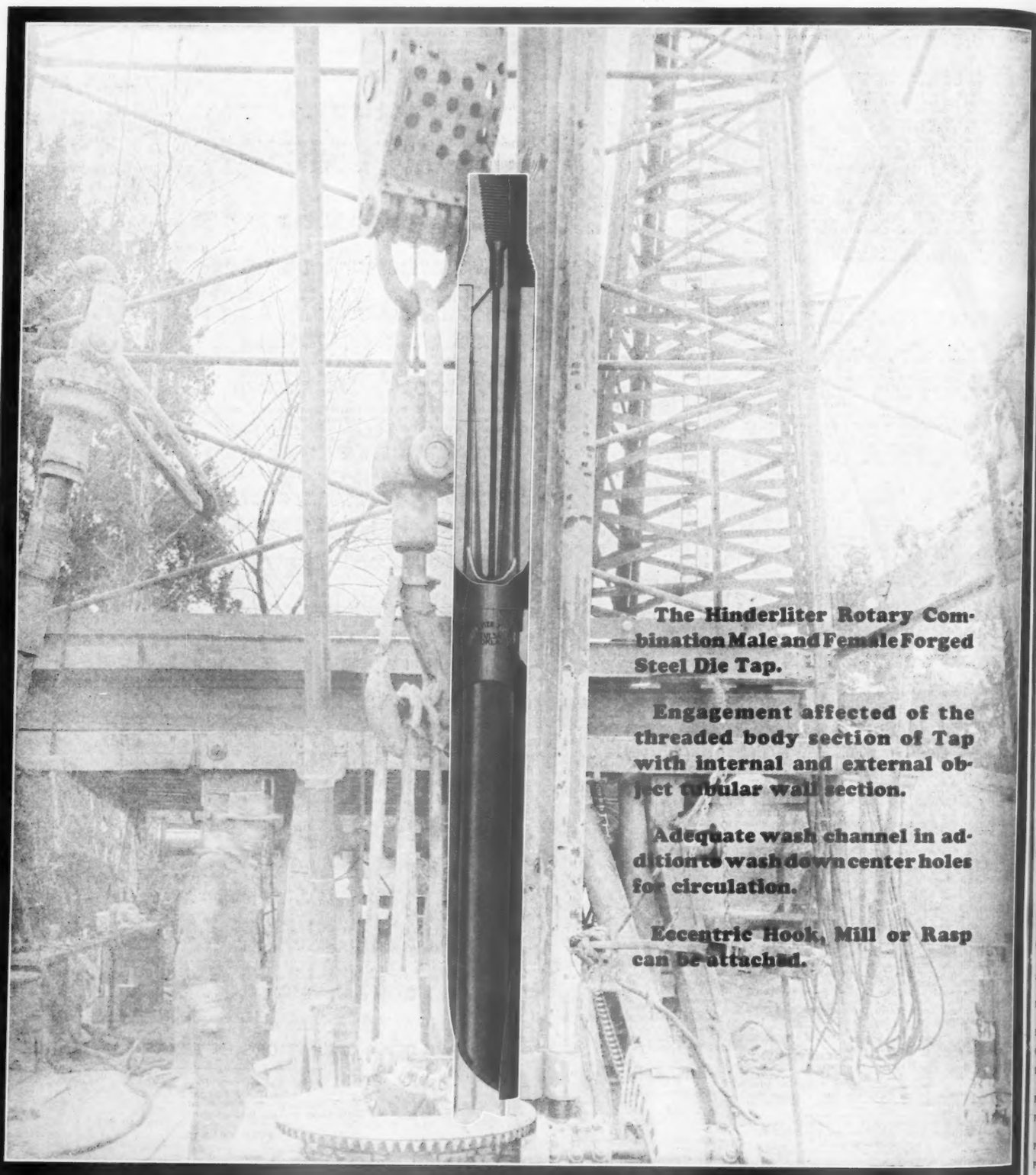
**GRAY COUNTY**

Anderson et al's No. 1 Heitholt, C NE SW, Sec. 152, Blk. 3, I.&G.N. Sur. ..... Spud.
B. S. Arnold's No. 1 J. E. Mingale, C E 160 ac., Sec. 212, Blk. B-2, H.&G.N. Sur. ..... S.D. 1,412 ft.
Arnold & Howell's No. 1 Turnex, C SW, Sec. 111, Blk. B-2 ..... S.D. 2,224 ft. for pipe.

DRILLING AND FISHING TOOLS

HINDERLITER TOOL COMPANY

ROTARY AND STANDARD CABLE



The Hinderliter Rotary Combination Male and Female Forged Steel Die Tap.

Engagement affected of the threaded body section of Tap with internal and external object tubular wall section.

Adequate wash channel in addition to wash down center holes for circulation.

Eccentric Hook, Mill or Rasp can be attached.

HONEST TOOLS

ROTARY STANDARD CABLE

Barnsdall Oil Corp.'s No. 1 M. B. Davis, NW cor. W½ SE. Sec. 9, Blk. 1, A.C.H.&B. Sur. ..... Drlg. 895 ft.
Comet Oil Co.'s No. 1 Harrah-B, 330 ft. each way from NW cor. NE. Sec. 150, Blk. 3, I.&G.N. Sur. ..... Rig on ground.
Crabtree Drlg. Co.'s No. 1 B. F. Talley, SW NE. Sec. 114, Blk. M-2, B.S.&F. Sur. ..... S.O. 2,400 ft.; S.D. 2,735 ft.
Cockrell-McElroy et als' No. 1 McConnell, 330 ft. each way from NE cor. W½ SW, Sec. 174, Blk. 3, I.&G.N.R.R. Sur. ..... Derrick.
Constantine et al's No. 1 Dial, 330 ft. S and E of NW cor. W½ NW, Sec. 32, Blk. 25, H.&G.N. Sur. ..... S.D. 2,415 ft.
Danciger et al's No. 1 Shaw, 1,000 ft. N and 330 ft. W SE cor. SW, Sec. 5, Blk. 1, A.C.H.&B. Sur. ..... 35,000,000 ft. gas 2,290 ft.; show oil 2,610-13 ft.; S. D. 2,645 ft.
Danciger et al's No. 1 J. E. Williams, 330 ft. each way from NE cor. NW SW, Sec. 6, Blk. 1, A.C.H.&B. Sur. Drlg. 2,069 ft.
Danciger et al's No. 1 Sheridan, SE cor. Sec. 184, Blk. B-2, H.&G.N.R.R. Sur. ..... Location.
Delmar Oil Co.'s No. 1 Chapman, 330 ft. each way from SE cor. NW, Sec. 10, Blk. 26, H.&G.N. Sur. ..... 133 bbls. 24 hrs. 2,732-55 ft.
Empire G. & F. Co.'s No. 1 A. R. Clay, NE cor. Sec. 155, Blk. B-2 ..... Drlg. 2,768 ft.
Eslick & McKinney's No. 1 Mrs. Hopkins, 330 ft. from NE, E½ NE, Sec. 84, Blk. B-2, H.&G.N. Sur. ..... S.D. 2,865 ft.
Sues & Reiger's, formerly Eslick et al's No. 1 Mrs. J. A. Hopkins, NW cor. W 80 ac. of SW, Sec. 84, Blk. B-2, H.&T.C. Sur. ..... Pull 6-in. csg. 3,206 ft.
Gulf Prod. Co.'s No. 4 Holmes-A, 990 ft. N and 330 ft. E of SW cor. W½ SE, Sec. 87, Blk. 3, I.&G.N. R.R. Sur. ..... C.O. 3,332 ft.
Gardner, Collins et al's No. 1 Saunders, 330 ft. each way from NE cor. of S 49 ac. of W 100 ac., Sec. 3, B.&B. Sur. ..... 10,100,000 ft. gas 2,526-46 ft.; drlg. 2,430 ft.
Gardner Bros. & Collins' No. 2 Saunders, 350 ft from N on center line of W 68 of W ½ of E ½ of J. G. Eustis Sur. ..... Location.
Magnolia Pet. Co.'s No. 1 Gething, 530 ft. each way from SE SW, Sec. 14, Blk. A-9, H.&G.N. Sur. .. Drlg. 2,485 ft.
Malone et al's No. 1 Taylor, 990 ft. S and E of NW cor. NW, Sec. 22, Blk. B-2, H.&G.N. Sur. ..... C.O. 2,760 ft.
Marland Prod. Co.'s No. 1 Brown-Finley, 330 ft. S and W of NE cor. Sec. 32, Blk. B-2, H.&G.N.R.R. Sur. .. Struck 35,000,000 ft. gas 2,770 ft., rig burned, rebuilding.
McLain Oil Co.'s No. 1 Back, 1,000 ft. from W line and 330 ft. from N line, NW, Sec. 24, Blk. 25 H.&G.N. Sur. ..... Drlg. 315 ft.
Midwest O. & G. Co.'s No. 1 Bower-B, 1,650 ft. from E and 330 ft. from N lines, Sec. 93, Blk. B-2, H.&G.N. R.R. Sur. ..... Drlg. 1,670 ft.
Mohob Oil Co.'s No. 2 Morse, 660 ft. from W line and 330 ft. from S line SW, Sec. 67, Blk. 25, H.&G.N. R.R. Sur. ..... Cellar.
Operators Oil Co.'s No. 3 Jackson, 330 ft. S and 990 ft. E of NW cor. N½ of NE, Sec. 88, Blk. B-2, H.&G.N. R.R. Sur. ..... Drlg. 2,323 ft.
Parton & Holt's No. 1 Gething, 330 ft. each way from SE cor. NE, Sec. 14, Blk. A-9 ..... S.D. 2,808 ft.
Phillips Pet. Co.'s No. 5 Johns, 330 ft. N and 990 ft. E of SW cor. SW, Sec. 87, Blk. 3, I.&G.N. Sur. .... Drlg. 650 ft.
Prairie O. & G. Co.'s No. 2 Reynolds, 330 ft. each way from NW cor. SE, Sec. 61, Blk. 3, I.&G.N. Sur. .. Swabbed 40 bbls. daily from G.W. 3,094-3,101 ft., to drill deeper.
Purple Sage Oil Co.'s No. 2 E. B. Johnson .. ..... 2,000,000 ft. gas; 200 ft. oil 2,870 ft.; shot with 510 qts. 2,775-2,872 ft.; 400 ft. oil; C.O. 2,875 ft.; to pump.
Republic Prod. Co.'s No. 1 G. H. Saunders, 330 ft. each way from SW cor. E½ NW cor. Sec. 4, Blk. 1, A.C.H.&B. Sur. ..... Drlg. in sidetracked hole 2,400 ft.
Schwald et al's No. 1 fee, 330 ft. each way from NE cor. E½ SW, Sec. 1, Blk. 1, A.C.H.&B. Sur. ..... Fishing 2,570 ft.
Shally Oil Co.'s No. 1 Saunders, 330 ft. from E line, 990 ft. from S line, SW, Sec. 4, Blk. 1, A.C.H.&B. Sur. .. Flowed 368 bbls. 10 hrs., 2,572-73 ft.
Shell Pet. Corp.'s No. 2 McConnell, 330 ft. S and E of NW cor. E½ SW, Sec. 174, Blk. 3, I.&G.N.R.R. Sur. .. Location.
H. Clair Oil Co.'s No. 1 Dial, 330 ft. S and W of NE cor. of SE Sec. 10, Blk. 25, H.&G.N.R.R. Sur. ..... Cellar.
H. Clair Oil Co.'s No. 1 Rowe, Sec. 32, Blk. R ..... Fishing 2,890 ft.
H. Clair Oil Co.'s No. 1 L. S. Stockton, SE cor., Sec. 95, W. R. Lee Sur. ..... Spudded and S.D.
Southern Pet. Exp. Co.'s No. 3 McConnell, 1,650 ft. from W line and 330 ft. from S line NW, Sec. 174, Blk. 3, I.&G.N.R.R. Sur. ..... Building rig.
The Texas Co.'s No. 6 Davis, 330 ft. S and 1,650 ft. W of NE cor. of NW, Sec. 86, Blk. 3, I.&G.N.R.R. Sur. .. Location.
The Texas Co.'s No. 5 A. Chapman, 1,138 ft. from W and 330 ft. from S lines, SE, Sec. 51, Blk. 25, H. &G.N. Sur. ..... Drlg. 2,416 ft.
The Texas Co.'s No. 2 McLarty-B, at center of J. M. Rose Sur. ..... Rig.
The Texas Co.'s No. 10 Saunders, 330 ft. N and W of SE cor. of W½ of J. G. Eustis Sur. ..... Spud.
Travis et als' No. 2 Back, 330 ft. each way from NW cor. E½ SE cor. Sec. 44, Blk. 25, H.&G.N.R.R. Sur. Rig on ground.
Travis et al's No. 1 J. S. Morse, SE NW SW, Sec. 68, Blk. 25, H.&G.N. Sur. ..... 30,000,000 ft. gas 2,592-2,610 ft.; light spray oil 2,740-45 ft.; to deepen.
Wilcox-Pampa Oil Co.'s No. 1 Worley, 330 ft. each way from NE cor. W½ SE, Sec. 37, Blk. 3, I.&G.N. Sur. . Location.
**Wilcox-Pampa Oil Co.'s No. 31 Worley Reynolds**, 330 ft. N and E SW cor. SE SW, Sec. 61, Blk. 3, I.&G.N.. Drlg. 2,916 ft.

**HOCKLEY COUNTY**

World Oil Co.'s No. 1 Ellwood, 320 ft. from N and W lines, League 7, Wilbarger County school lands; elevation 3,363 ft.; contract depth 5,000 ft. ..... S.D. 1,455 ft.

**HARTLEY COUNTY**

Amarillo Oil Co.'s No. 9 Lee Bivins "A," C NW, Sec. 6, Blk. 21 ..... 15,000,000 ft. gas 3,300-35 ft.; T.D. 3,601 ft.; deepen.
Canadian River Gas Co.'s No. 10 Burns-A, 660 ft. N and 660 ft. E, Sec. 18, Blk. 2, G.&M. Sur. ..... Rig.

**HUTCHINSON COUNTY**

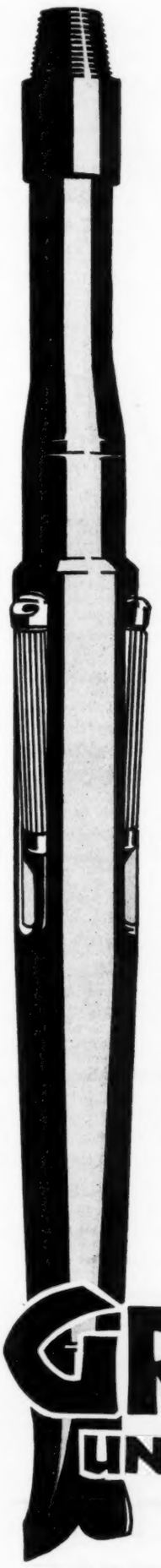
Antelope Creek Oil Co.'s No. 3 Sanford, 330 ft. from N line and 330 ft. from W line of E½ S 160 ac. of Sec. 82, Blk. 46, H.&T.C. Sur. ..... Pulling big pipe 3,003 ft.
Brannigan et al's No. 1 C. W. Hugenbyhl, 330 ft. from S line and 330 ft. from E line, N½, Sec. 4, Blk. 7, W.N.G.R.R. Sur. ..... Drlg. 3,070 ft.
Marland Prod. Co.'s No. 1 Johnson-C, 450 ft. S and W of NE cor. Sec. 5, Blk. 1, B.&B. Sur. ..... Spud. and S.D.
Oil Operators Trust Co. and Marland's No. 2 J. M. Stanford B, Sec. 82, Blk. 46, H.&T.C. Sur. ..... S.D. 3,039 ft.
Phillips Pet. Co.'s No. 2 Jasper, 980 ft. from S line and 660 ft. from E line SE, Sec. 23, Blk. M-23, T.C. R.R. Sur. ..... Drlg. 770 ft.
Phillips Pet. Co.'s No. 4 Johnson Bros.-Florence, 330 ft. N and E of SW cor. E½, Mary Whitely Sur. .. Drlg. 2,805 ft.
Phillips Pet. Co.'s No. 5 Johnson-Barnum, 990 ft. N and 330 ft. W SE cor. E 80 ac. of S 160 ac. of N 400 ac., Sec. 44, Blk. 46, H.&T.C.R.R. Sur. ..... Set 6-in. 2,783 ft.
Phillips Pet. Co.'s No. 3 Sanford-Garland, 330 ft. N and E of SW cor. Sec. 77, Blk. 46, H.&T.C. Sur. ..... S.D. 1,540 ft.
Phillips Pet. Co.'s No. 15 Whittenburg, Sec. 63, Blk. 46, H.&T.C. Sur. ..... Set 6-in. 2,772 ft.
Phillips Pet. Co.'s No. 16 Whittenburg, Sec. 63, Blk. 46, H.&T.C. Sur. ..... Drlg. 565 ft.
The Texas Corp.'s No. 2 Moore, 990 ft. fromN line and 330 ft. from W line SW Sec. 125, Blk. 4, I.&G.N. Sur.. Rig.
Timms et al's No. 1 Moore, 330 ft. N and E of SW cor. S 40 ac. of NW, Sec. 21, Blk. M-21, T.C.R.R. Sur. Swedging 15-in. csg. 340 ft.

**KING COUNTY**

The Texas Co.'s No. 1 J. H. Johnson ..... S.D. 4,300 ft.
Huff Oil Co.'s No. 1 Martin, 1,320 ft. from N line and 1,320 ft. from E line Sec. 171, Blk. F, H.&T.C. Sur... Rig.

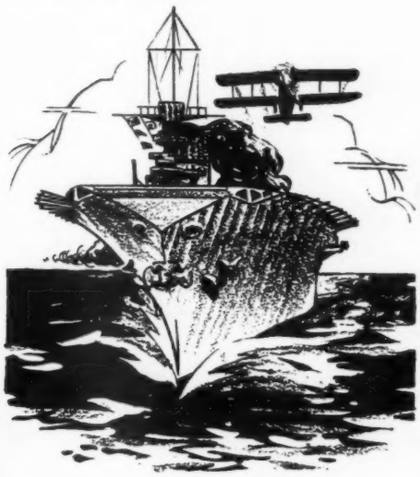
**LAMB COUNTY**

Dan Freel et al's No. 1 Ellwood, CWL, Sec. 9, Blk. T, T. A. Thompson Sur. ..... Spudded and S.D.

## A record breaking airplane carrier

On her recent voyage from San Pedro, Calif., to Honolulu, 2,228 nautical miles, the U. S. Navy's new aircraft carrier, Lexington, shattered all records, doing 700 miles the first twenty-four hours, 742 miles the second, and 786 miles the remaining twenty-four hours and thirty-four minutes. The average speed was 30.7 knots an hour. Since then, this great craft, over 800 feet in length, has made 33.04 knots in speed trials.



# A record breaking underreamer!

GRANT Underreamers have long had a reputation for doing the "impossible." This is the kind of records they establish. Recently, a Grant Type "C" Underreamer underreamed over 2000 feet of full gauge 8½-inch hole that was 436 feet from perpendicular. Casing was landed on bottom without a hitch and a perfect cement job secured. Another instance: after others said it could not be done, a special 4-inch Grant Underreamer was made and used which made possible the landing of the longest string of 3-inch casing ever set. In other words, you can count on Grant ingenuity and Grant Underreamers to solve your underreaming problems. We make a type for every need.

## Grant Oil Tool Co.

**2042-44 East Vernon Avenue**
**LOS ANGELES, CALIFORNIA**
**U. S. A.**

DISTRIBUTORS

OIL WELL SUPPLY COMPANY
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LUCEY PRODUCTS CORPORATION

# GRANT UNDERREAMERS

**"Put the Casing on the Bottom"**

**LIPSCOMB COUNTY**

Brown et al's No. 1 Box T Ranch, SW NE Sec. 612, H.&T.C. Sur. — S.D. 3,128 ft.
Ruby Oil Co.'s No. 1 C. W. Jones, NE SW, Sec. 100 H.&T.C. Sur. — S.D. 4,433 ft. for 5-in. csg.

**LUBBOCK COUNTY**

Center Oil Co.'s No. 1 Bowles Ranch — Small show oil 1,133-40 ft.; sand; fishing 4,105 ft.

**MOORE COUNTY**

Amarillo Oil Co.'s No. 2 Warrick-A, center S 160 acres Sec. 92, Blk. 46, H.&T.C. Sur. — Location.
Canadian Gas Co.'s No. 1 Kilgore-A, 2,716 ft. S and 2,695 ft. W of NE cor. Sec. 1, Eustis Sur. — S.D. 1,000 ft.
Devonian Oil Co.'s No. 1 Sneed, 330 ft. N and 2,335 ft. W of SE cor. of S 160 ac. of N 320 ac., M. Robinson Sur. — Drlg. 900 ft.
Dixie Creek Oil Co.'s No. 1-A Sneed, Jr., 330 ft. N and W of SE cor. E½, Sec. 65, Blk. 3, G.M. Sur. — 400 ft. oil 3,305-15 ft., H.F.W. at 3,330 ft., P.B. to 3,316 ft., shot with 30 qts. 3,241-68 ft. and 50 qts. 3,283-3,316 ft., C. O.
Dixie Creek Oil Co.'s No. 4-A Sneed, Jr., 330 ft. S and W of NE cor. E½, Sec. 65, Blk. 3 — 10,000,000 ft. gas 2,835-55 ft.; 50 ft. oil 3,304-05 ft.; H.F.W. 3,-354 ft; P.B. to 3,336 ft; shot with 55 qts. 3,305-25 ft. and second shot 3,217-38 ft; C.O.
Fritch O. & G. Co.'s No. 1 Lee Burns, C NE 40 ac. of N 160 ac., Sec. 4, Geo. Mahan Sur. — Spudded and S.D.
McMan Oil & Gas Co.'s No. 2 Sneed, 2,260 ft. S and 990 ft. W of NW cor. J. W. Proctor Sur., located in M. Robinson Sur. — Stdzg. 2,400 ft.
Skelly Oil Co.'s No. 6 Armstrong & Byrd, 1,600 ft. S and 990 ft. E NW cor. of J. N. Proctor Sur. — Rig.
Skelly Oil Co.'s No. 7 Armstrong & Byrd, 2,260 ft. S and 990 ft. E NW cor. J. N. Proctor Sur. — Cellar.
Phillips Pet. Co.'s No. 1 Burnett, 330 ft. each way from NE cor. NE, Sec. 192, Blk. 3-T, T.&N.O. Sur. — Set. 8-in. 2,644 ft., stdzg.
Phillips Pet. Co.'s No. 3-A Sneed, Jr., 1,600 ft. S and 430 ft. W of NW cor. J. N. Proctor Sur. — Location.
Phillips Pet. Co.'s No. 4 Sneed, 1,600 ft. S and 990 ft. W of NW cor. J. W. Proctor Sur.; located in M. Robinson Sur. — S.D. 1,946 ft.
Phillips Pet. Co.'s No. 1 Taylor, 330 ft. N and E of SW cor. of E½ of NW cor. Sec. 244, Blk. 3-T, T. &N.O. Sur. — Moving in tools.

**MOTLEY COUNTY**

Explto. Co.'s No. 1 Tillson — S.D. 3,125 ft.
Explto. Co.'s No. 2 Matador Land & Cattle Co., C SW, Sec. 37, John Gibson Sur. — S.D. 4,700 ft.

**ROBERTS COUNTY**

Big Bend Oil Co.'s No. 1 Ledrick, Sec. 7, Blk. 5-A — Formerly abd. at 5,240 ft.; small show 36 gravity oil 5,288-91 ft.; show oil brown sand 5,710-12 ft.; drlg. 5,860 ft.

**WHEELER COUNTY**

Angus et al's No. 2 Morgan, C E½ NW NE, Sec. 93, Blk. 17, H.&G.N. Sur. — U.R. 6-in. csg. 1,298 ft.
Arnold Oil Co. et al's No. 1 Ritchey, 420 ft. from E and 460 ft. from S lines of NW cor. Sec. 5, Blk. 24, H.&G.N. Sur. — S.D. 1,530 ft.
Byrens et al's No. 1 Johnson, SW cor. NE, Sec. 88, Blk. A-5, H.&G.N. Sur. — S.D. 2,800 ft.
Clark et als' No. 4 Purcell, C SW of SW Sec. 51, Blk. 17, H.&G.N.R.R. Sur. — Spud.
Edwards et al's No. 2 Trostle, C NW of NW Sec. 130, Blk. 23, H.&G.N. Sur. — Rig burned 1,235 ft., rebuilding.
Fain-McGaha and Humble's No. 1 Noel, 330 ft. each way from NE cor. S½ SE, Sec. 54, Blk. 24, H.& G.N. Sur. — Drlg. 775 ft.
Gibson Oil Co.'s No. 6 Bentley, 330 ft. S and E of NW cor. SE of SE Sec. 42, Blk. 24, H.&G.N.R.R. Sur. — Drlg. 1,265 ft.
Hartell et al's No. 1 Burchman, C NW SE, Sec. 91, Blk. 17, H.&G.N. Sur. — 35,000,000 ft. gas 1,925-27 ft.
Johnson & Co.'s No. 1 Purcell, 430 ft. from N line and 570 ft. from W line NE, Sec. 50, Blk. 17, H.&G.N. Sur. — Drlg. 1,230 ft.
Lone Star Co.'s No. 1 Hicks, C SW NE, Sec. 52, Blk. 17, H.&G.N. Sur. — Rig.
Lone Star Gas Co.'s No. 4 Jones, center of SE of NE Sec. 1, Blk. 24, H.&G.N. Sur. — Rig.
Lone Star Gas Co.'s No. 1 Turnbow, C NE SW, Sec. 67, Blk. 17, H.&G.N.R.R. Sur. — Location.
Mudge Oil Co.'s No. 1 Hicks, C SW of SW Sec. 52, Blk. 17, H.&G.N.R.R. Sur. — S.D. 1,000 ft.
L. W. Rook's No. 1 M. Nelson, C SW NE, Sec. 5, Blk. 24, H.&G.N. Sur. — S.D. 2,000 ft.
Swain & Miller's No. 1 Woodley, C NW NW, Sec. 21, Blk. 24, H.&G.N.R.R. Sur. — Rig.
Swain & Miller's No. 1 Turnbow, C NE SW, Sec. 67, Blk. 17, H.&G.N.R.R. Sur. — Location.
The Texas Co.'s No. 1 Gordon, 330 ft. N and 405 ft. W of SE cor. of NW Sec. 91, Blk. 17, H.&G.N.R.R. Sur. — U.R. 8-in. 1,400 ft.
L. W. Rook's No. 2 A. Smock, C SW SE, Sec. 5, Blk. 24, H.&G.N. Sur. — Rig.
Vaughn et al's No. 1 Woodley, C NE of NE Sec. 21, Blk. 24, H.&G.N. Sur. — Spud.
Wisch Kamper's No. 1 Adamson, C NE SE, Sec. 50, Blk. 17, H.&G.N.R.R. Sur. — Drlg. 290 ft.
Upham Gas Co.'s No. 1 Raybo, C S¼ NW NW, Sec. 105, Blk. 23, H.&G.N. Sur. — Rig.

## WILDCAT OPERATIONS IN KANSAS

(Continued from Page 53)

**Marland Oil Co.'s No. 1 Vine, SW cor. SW SE Sec. 27-11-19w** — Drlg. 4,075 ft.
**Davis & Haslett's No. 1 Wieland, NE cor. NE Sec. 1-13-16w** — Sand 3,004-14 ft.; 200 bbls. daily.

**EDWARDS COUNTY**

**Amerada & Wilcox's No. 1 Teansil, C NW SW Sec. 32-25-19w** — Drlg. 4,370 ft.
**British American Oil Co.'s No. 1 McCarty, NE cor. NW Sec. 31-25-17w** — Fishing 2,870 ft.

**GEARY COUNTY**

**Wright et al's No. 1 Younker, NW cor. NE Sec. 17-11-5** — Shut down 1,300 ft.

**GRAHAM COUNTY**

**Gulf Coast Oil Co.'s No. 1 Johnson, C S half Sec. 27-8-25w** — Shut down 2,480 ft.

**HARPER COUNTY**

**Amerada Pet. Corp.'s No. 1 Mendiville, C E SE Sec. 34-34-6w** — Cleaning out 5,353 ft.

**HARVEY COUNTY**

**R. S. Austin's No. 1 Nieman, SW cor. SW Sec. 21-24-2** — Drlg. 3,106 ft.
**R. F. Garland's No. 1 Cox, NE cor. NE Sec. 27-24-1w** — Drlg. 2,680 ft.
**Empire G. & F. Co.'s No. 1 Tangeman, SW cor. NE NE Sec. 19-22-1e** — Drlg. 1,810 ft.
**Mrs. Gay et al's No. 1 Greve, C NW NE NW Sec. 29-23-1w** — Drlg. 1,255 ft.
**Hartman & Skaer's No. 1 Seamen, NW cor. NE SE Sec. 26-24-1e** — Rig.
**Helmerich & Payne's No. 1 Lindamond, C SW NE SW Sec. 2-22-1e** — Drlg. 1,325 ft.
**Fisher & Louck et als' No. 1 Reiger, NW cor. NE Sec. 17-23-2** — Drlg. 1,995 ft.
Jolly & Ogg's No. 1 Randall, NE cor. NE Sec. 11-24-1w — Spudded.
Patton et al's No. 1 Duning, SE cor. SW NE Sec. 26-24-1 — Rig.
Rosenthal et al's No. 1 Ingalls, NW cor. SW Sec. 24-23-3w — Rig.

**JEFFERSON COUNTY**

**Wichlet Oil Co.'s No. 1 Simpson, NW cor. SW SW Sec. 19-10-17** — Rigged up and shut down.

**JACKSON COUNTY**

**Garvin & Morton's No. 1 Lutes, SW cor. NW NW Sec. 27-7-15** — Shut down 940 ft.

**LANE COUNTY**

**Blankenship Pet. Co.'s No. 1 Schaeffer, NE cor. NE Sec. 24-16-28w** — Spudded and shut down.

**MARSHALL COUNTY**

**Irwin et al's No. 1 Cooper, NE cor. NW Sec. 10-3-7** — Shut down 600 ft.

**MARION COUNTY**

**Empire Oil & Ref. Co.'s No. 1 Burhart, SE cor. NE NE Sec. 11-20-2** — Shut down 2,400 ft.
**Empire G. & F. Co.'s No. 1 Blankley, NW cor. NE SW Sec. 30-20-4** — Drlg. 2,150 ft.
**J. E. Hauna's No. 1 Pankratz, NE cor. NE SW Sec. 13-20-3** — Rig.
**A. E. Meyers' No. 1 Papp, SW cor. SW NE Sec. 10-18-2** — Drlg. 765 ft.
Frank L. Moore's No. 1 Miller, NE cor. NE Sec. 26-19-1 — Rig.

**MEADE COUNTY**

**Blackwell O. & G. Co.'s No. 1 Beyer, SE cor. NW SE Sec. 9-33-28w** — 500,000 ft. gas and 1 bbl. water; total depth 4,356 ft.

**McPHERSON COUNTY**

**Ted Washabaugh's No. 1 Vosshell, NE cor. NE Sec. 9-21-3w** — Underreaming 2,585 ft.
**Lariaux et al's No. 1 Martinson, NE cor. Sec. 9-19-3w** — Rig.
**McPherson Gas Co.'s No. 1 Stein, SW cor. NE SW Sec. 17-18-1w** — Dry and abandoned 3,515 ft.
**McPherson Gas Co.'s No. 1 Gustafson, C NE Sec. 9-17-2w** — Shut down 3,597 ft.
**W. C. Newman's No. 1 Diepenbrock, NW cor. NE Sec. 2-17-1w** — Dry and abd. 3,534 ft.
**McPherson Gas Co.'s No. 1 Wedell, C SW Sec. 13-20-2w** — 5,000,000 ft. gas 2,983 ft; S.D. 991 ft.
**Vickers Pet. Co.'s No. 1 Wedell, C SW Sec. 12-20-2w** — Rig.
**Mid-Kansas Oil & Gas Co.'s No. 1 Yoder, C NW SW Sec. 5-20-4w** — Drlg. 2,908 ft.
**Marland Prod. Co.'s No. 1 Wilkering, C SW SW Sec. 9-21-1w** — Drlg. 2,180 ft.

**NESS COUNTY**

**Barnsdall Oil Co.'s No. 1 Lauk, C SW Sec. 25-18-21w** — Drlg. 1,398 ft.

**OSBORNE COUNTY**

**L. D. Jarvis' No. 1 Jellison, SE cor. SE Sec. 13-10-15w** — Spudded and shut down.

**OTTAWA COUNTY**

**Anderson et al's No. 1 Bank, NE cor. NW Sec. 28-10-2w** — Shut down 2,820 ft.

**PAWNEE COUNTY**

**F. C. Troupe's No. 1 Lovett, CEL NE NE Sec. 31-21-16w** — Shut down 1,580 ft.

**PHILLIPS COUNTY**

**Watsonia Oil Co.'s No. 1 Marklein, NE cor. SW Sec. 21-3-19w** — Shut down 3,015 ft.
**British American Oil Co.'s No. 1 Weinman, C SW SW Sec. 34-2-19w** — Rig.

**PRATT COUNTY**

**O'Haver & Jones' No. 1 Lunt, CSW NW Sec. 15-28-14w** — Spudded and S.D.

**RENO COUNTY**

**Austin Drilling Co.'s No. 1 Strickley, SW cor. NW Sec. 17-25-5w** — Rig.

**RICE COUNTY**

**Allison & Fitzwilliams' No. 1 Poland, NE cor. SW NE Sec. 36-19-8w** — Cellar.
**Higgins & Stembubble's No. 1 Shurr, NE cor. SW Sec. 21-20-10w** — Show gas 1,419 ft., S.D.

**ROOKS COUNTY**

**Prairie Oil & Gas Co.'s No. 1 Sandberg, C SW Sec. 20-9-18w** — Drlg. 1,430 ft.
**Burford & Brimm's No. 1 Toxa, NE cor. SW SE Sec. 32-19-17w** — Spudded and shut down.
**Skelly and Midwest's No. 1 Jones, SW cor. NE NW Sec. 28-7-16w** — Shut down 3,485 ft.

**RUSH COUNTY**

**Phillips Pet. Co.'s No. 1 Legleiter, NE cor. NW SE Sec. 10-16-18w** — Drlg. 1,070 ft.
**Sinclair Oil & Gas Co.'s No. 1 Berching, NW cor. NE NW Sec. 9-16-16w** — Underreaming 3,718 ft.
**Danciger Oil & Ref. Co.'s No. 1 Poland, NE cor. SW NE Sec. 17-19-17w** — Shut down 530 ft.
Wilcox Oil & Gas Co.'s No. 1 Schwartzkopf, NE cor. NW SW Sec. 27-27-17w — Rig.

**RUSSELL COUNTY**

**Joe Liggett's No. 1 Maier, SE cor. NE SE Sec. 3-11-15w** — Top Oswald 3,016 ft.; show oil and water; drlg. 3,280 ft.

**SALINE COUNTY**

**M. Estey et al's No. 1 Peterson, C NE Sec. 6-16-5w** — Spudded and shut down.
**Boyle et al's No. 1 Miller, SW cor. SE Sec. 21-16-1w** — Shut down 2,615 ft.
**Nathan Jones et al's No. 1 Robertson, NW cor. SW Sec. 27-14-2w** — Drlg. 3,085 ft.

**SEDGWICK COUNTY**

**Bu-Vi-Bar et al's No. 1 Roberts, SE cor. SW Sec. 1-26-2w** — Rig.
**Barnsdall Oil Co.'s No. 1 Means, NW cor. SW Sec. 34-27-2** — Dry and abd. 3,429 ft.
**Lewis et al's No. 1 Taylor, NW cor. NE Sec. 23-27-2** — Shut down 1,680 ft.
**J. H. Tatlock et al's No. 1 Goeider, NW cor. NE Sec. 6-29-2e** — Drlg. 2,860 ft.
**Kyser et als' No. 1 Street, SW cor. NW Sec. 3-26-2w** — Drlg. 2,865 ft.
**Larlo & Blair's No. 1 Tjaden, C NE SE Sec. 23-29-1w** — Shut down 2,245 ft.
**Magiason et al's No. 1 Buckles, NW cor. SE Sec. 3-28-1w** — Shut down 250 ft.
**R. Magiason et als' No. 1 Buckles, NW cor. SE Sec. 3-28-1w** — S.D. 250 ft.
**Magnolia Pet. Co.'s No. 1 Wise NW cor. NW Sec. 36-28-2w** — Drlg. 1,175 ft.
**McCulloch Oil Co.'s No. 1 John, C NE SW NE Sec. 34-29-1e** — Drlg. 2,950 ft.
**Morgan & Tilley's No. 1 Fitzgerald, NW cor. NE Sec. 5-26-1w** — Drlg. 300 ft.
**Barnsdall Oil Co.'s No. 1 Faber, SW cor. NW Sec. 6-27-1w** — Shut down 3,480 ft.
**Bu-Vi-Bar Pet. Co.'s No. 1 Steel, SE cor. SE Sec. 1-26-2w** — Drlg. 3,368 ft.
**Connell & Slick's No. 1 Cross, NE cor. NE Sec. 27-25-1w** — Drlg. 3,310 ft.
**VanZant & Mason's No. 1 Fox, C NW SW Sec. 19-25-1w** — Fishing 3,431 ft.
**Miller & Wentz's No. 1 Shaffer, NW cor. NE Sec. 9-27-2w** — Drlg. 350 ft.
**Morgan et als' No. 1 Corn, SW cor. NE, Sec. 35-26-1w** — Drlg. 2,656 ft.
**E. B. Shawver et als' No. 1 Reeves, SE cor. SW SE Sec. 19-28-1e** — Drlg. 2,310 ft.
**Shell Pet. Corp.'s No. 1 Lygrisse, SE cor. NE Sec. 15-26-2e** — Drlg. 1,790 ft.
**Washabaugh et als' No. 1 Lowery, NW cor. NE NE Sec. 3-26-2w** — Rig.
Sullivan et al's No. 1 Shelly, NW cor. NE SE Sec. 32-29-2 — Rig.
Hartman & Skaer et al's No. 1 Hutchinson, SE cor. SE SW Sec. 23-28-3w — Rig.
J. H. Tatlock's No. 1 Cook, SW cor. SW Sec. 25-28-2 — Rig.
Producers Oil Co.'s No. 1 Jones, SW cor. NE SE Sec. 31-26-2 — Rig.
Connell & Slick's No. 1 Mohammah, NE cor. SE SE Sec. 3-25-1w — Rig.
G. L. Ramsey's No. 1 Schluesser, SW cor. SW Sec. 1-25-1 — Drlg. 1,490 ft.
Jones & Kirk's No. 1 Sheppard, SE cor. NE Sec. 4-25-1 — Rig.
H. H. Patton's No. 1 Ryder, NE cor. NE Sec. 22-25-1 — Drlg. 1,760 ft.

**SHERMAN COUNTY**

**A. L. Henson et al's No. 1 Murry, NE cor. SE NW Sec. 33-7-40w** — Shut down 3,035 ft.

**STEVENS COUNTY**

**Trees Oil Co.'e No. 1 Thompson, C NE SW Sec. 3-35-38w** — Fishing 450 ft.
**W. Sidwell et al's No. 1 Kelly, SW cor. NE Sec. 16-34-38w** — Drlg. 1,557 ft.
**McKenna et al's No. 1 Haun, SE cor. NE Sec. 10-33-38w** — Drlg. 2,400 ft.

**SMITH COUNTY**

**Mid-Kansas Oil & Gas Co.'s No. 1 Unknown, NE cor. NE Sec. 4-3-13w** — Rig.

**SUMNER COUNTY**

**McCulloch Oil Co.'s No. 1 Teetle, SW cor. NE Sec. 29-34-1w** — S.D. 4,632 ft.
**Gypsy Oil Co.'s No. 1 Williams, NW SE SW Sec. 16-35-3w** — Fishing 4,400 ft.
**Helmerich & Payne's No. 1 Warlick, SE cor. NE Sec. 8-34-3** — Dry and abandoned 3,854 ft.
**Otstot et al's No. 1 Barlow, SE cor. SE Sec. 22-33-2w** — Plugging back to 4,150 ft.
**Davidson and others' No. 1 Strickland, SW cor. SE Sec. 12-35-1w** — Rig.

**TREGO COUNTY**

**Central Commercial Oil Co.'e No. 1 Ellis, NE cor. SW NE Sec. 30-13-21w** — Shut down 3,200 ft.

**WASHINGTON COUNTY**

**McCool & Vincent's No. 1 Linn, NW cor. NE Sec. 27-4-3** — Rig.

# The GUIBERSON SWAB KNOWS NO HALF WAY MEASURES

*Fully Patented*

We mean that literally. Every time a Guiberson Swab goes in the hole, it brings a "full measure" load to the surface. There's no beginning at the bottom with a full load and losing half of it before it reaches the top.

The pressure of a load of fluid works *with* the cups on a Guiberson Swab, pressing them firmly against the casing walls. The greater the pressure, the tighter the seal that is made. No fluid slips past the cups and back into the hole. Yet the cups are collapsible from below, allowing speedy passage while running in, with no danger of kinking wire lines. The cups are extremely flexible and are steered safely past all wrinkles and projections in the casing by imbedded guide wires. This reduces wear on cups and casing—while giving 100% efficiency in swabbing.

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GUIBERSON
BETTER BE SAFE THAN SORRY

# Oklahoma Production, Fourth Quarter 1928

Net crude oil and natural gas production in Oklahoma for the fourth quarter of 1928 as reported to the state auditor at Oklahoma City for taxation purposes is given below. This report includes producers having a production valued at $5,000 or more for the three months and royalty owners with a production valued at $2,000 or more for the three months. Royalty interests are designated with the asterisk.

### A

| Name and address— | No. of bbls. | M. ft. gas | Amount |
|---|---|---|---|
| *Alma Royalties Corp., New York, N. Y. | ..... | ..... | $20,383.02 |
| *American Indian Royalties, Inc., St. Louis, Mo. | ..... | ..... | 12,656.27 |
| American Oil Development Co., Pittsburgh, Pa. | 5,514.19 | ..... | 7,782.36 |
| American Refining Property, W. M. Priddy estate Wichita Falls, Tex | 4,301.22 | ..... | 6,579.02 |
| Anthony, S. W., Mounds | ..... | ..... | 10,090.94 |
| Arthur Oil Co., Sistersville, W. Va. | 10,043.59 | 16,369 | 14,527.74 |
| *Atlas Royalty Corp., Tulsa | ..... | ..... | 7,761.31 |
| *Accumulative Royalty Corp., Tulsa | 19,496.00 | ..... | 28,211.56 |
| *Atlantic Oil Producing Co., Philadelphia, Pa. | ..... | ..... | 3,246.20 |
| *Abraham, Joe, estate, Bristow | ..... | ..... | 5,567.73 |
| *Arnold, H. Y., Tulsa | 1,313.24 | ..... | 2,440.94 |
| *Andrews, Walter, Weslaco, Tex. | ..... | ..... | 3,571.23 |
| *Craig & Andrews, receiver, Chandler | ..... | ..... | 2,264.01 |
| *Apple, S. A., Oklahoma City | ..... | ..... | 16,131.88 |
| *Andrews, H. N., & Ethel B., Newkirk | ..... | ..... | 10,573.17 |
| *American Royalty & Petroleum Co., Tulsa | 2,641.87 | ..... | 4,387.98 |
| Atlantic Oil Producing Co., Dallas, Tex. | ..... | 519,637 | 39,897.26 |
| Atlantic Oil Prod. Co., Dallas, Tex. | 381,386.40 | ..... | 556,126.60 |
| Armor Oil & Gas, Duncan | 4,324.43 | ..... | 6,773.63 |
| *Altom, B. N., Tonkawa | ..... | ..... | 11,699.23 |
| Alma Petroleum Co., Oklahoma City | 1,958.77 | 127,727 | 11,828.39 |
| *Adams, E. E., Tulsa | ..... | ..... | 3,106.39 |
| Argo Oil Co., Denver, Colo. | 17,172.48 | 152,628 | 38,673.36 |
| Adamson, Peter, Jr., Tulsa | ..... | ..... | 5,049.74 |
| *American Oil Royalty Seminole Corp., Tulsa | ..... | ..... | 9,242.81 |
| Allen, W. O., Tulsa | ..... | ..... | 3,688.47 |
| *Adams Royalty Co., Chicago, Ill. | 74,343.17 | ..... | 126,184.90 |
| *Anthis, James M., Muskogee | 74,343.17 | ..... | 2,170.37 |
| *Adcock, A. D., Okmulgee | ..... | ..... | 6,640.84 |
| Amster, N. L., Ardmore | 6,663.13 | ..... | 8,325.51 |
| *Atlantic Oil Prod. Co., Dallas, Tex. | 7,871.67 | 16,774 | 14,438.08 |
| Arkansas Fuel Oil Co., Shreveport, La. | 7,890.03 | ..... | 8,452.29 |
| Amerada Petroleum Corp., Tulsa | 962,176.54 | 1,695 | 1,516,465.22 |
| *Amerada Petroleum Corp., Tulsa | 9,472.42 | ..... | 14,500.94 |
| *Amerada Petroleum Corp., Tulsa (suspense) | ..... | ..... | 12,950.47 |
| *Amerada Refining Corp., Tulsa | ..... | ..... | 3,717.76 |
| *Andrews, Martha Nadie Tully, Muskogee | ..... | ..... | 2,035.20 |

### B

| | | | |
|---|---|---|---|
| *Bermonte Oil Co., Bristow | 5,480.76 | 6,587 | 8,772.64 |
| Blackwell Oil & Gas Co., Cushing | ..... | ..... | 480,993.60 |
| *Blair, B. B., Tulsa | ..... | ..... | 3,019.40 |
| Braman Oil Co., Inc., Tulsa | 6,010.83 | ..... | 9,010.49 |
| *Bishop, Homer, Wewoka | ..... | ..... | 4,305.40 |
| Barbara Oil Co., Oklahoma City | 8,778.34 | ..... | 13,132.97 |
| *Bole, George S., Tulsa | 1,842.22 | 2,627 | 3,326.87 |
| Bole, George S., Tulsa | 11,796.19 | 18,357 | 18,587.04 |
| *Beverlin, F. G., Wichita, Kans. | ..... | ..... | 13,921.52 |
| *Beaver, W. L., and Don Lawhead, Oklahoma City | ..... | ..... | 7,093.51 |
| *Baruch, Lizzie D., New York, N. Y. | ..... | ..... | 2,320.80 |
| *Butcher, Thomas, Oklahoma City | ..... | ..... | 3,275.29 |
| *Brown, W. E., Co., Tulsa | 6,856.64 | ..... | 11,031.29 |
| *Brown, W. P., & Maud, Okmulgee | ..... | ..... | 2,227.66 |
| Beacon Oil Co., Bartlesville | 4,817.77 | ..... | 5,886.83 |
| *Buckner, Roy, Wewoka | ..... | ..... | 2,968.11 |
| Baker & Strawn, Tulsa | 8,388.29 | ..... | 11,190.23 |
| Burke Hoffeld Oil Co., Tulsa | 4,695.99 | 686 | 6,006.22 |
| Bradley, E. A., & Anna, Tulsa | 7,049.66 | ..... | 8,694.18 |
| *Berry, Thomas N., & Harrett, Stillwater | ..... | ..... | 12,074.20 |
| Britton-Johnson Oil Co., Oklahoma City | 6,236.20 | ..... | 5,810.79 |
| *Bart Royalty Co., Bartlesville | 12,903.99 | ..... | 20,352.54 |
| *Barrett, Mrs. Mary F., Austin, Tex. | 2,003.35 | ..... | 2,684.49 |
| *Blank, E. J., Cushing | ..... | ..... | 9,659.26 |
| *Brittain, W. L., Oklahoma City | ..... | ..... | 2,865.51 |
| Barnett, J. A., & L. M. Baker, McLoud | ..... | ..... | 3,320.42 |
| Baker, T. J., & Central National Bank, trustee, Okmulgee | ..... | ..... | 7,278.40 |
| *Bramer, I. L., Los Angeles | ..... | ..... | 3,877.70 |
| Brown, A. C., Oil Enterprise, St. Louis, Mo. | 4,535.53 | ..... | 5,714.76 |
| *Brown, nee, Katie Snell, Dustin | ..... | ..... | 2,740.98 |
| *Brown, J. L., Jr., Wichita, Kans. | ..... | ..... | 3,370.39 |
| *Bellis, J. H., Cushing | ..... | ..... | 2,106.57 |
| *Barnum, Hubert, Natchez, Miss. | ..... | ..... | 3,479.75 |
| *Bart Royalty Co., Bartlesville | 12,903.99 | ..... | 20,352.54 |
| *Belco Royalties, Inc., New York City | ..... | ..... | 38,587.62 |
| Braun, James, Bartlesville | ..... | ..... | 6,852.78 |
| *Bates, S. W., Konawa | ..... | ..... | 6,661.08 |
| *Ballard, Elizabeth, Cushing | ..... | ..... | 4,823.18 |
| *Barker, W. I., Ada | ..... | ..... | 3,732.06 |
| *Banta, D. D., Tecumseh | ..... | ..... | 9,525.18 |
| *Banta, Ruth Price, Wewoka | ..... | ..... | 3,057.08 |
| *Barker, G. H., & Annie, Shawnee | ..... | ..... | 4,518.77 |
| Bryon & Emery, Inc., Tulsa | 15,063.18 | 35,605 | 28,805.72 |
| Bay State Oil Co., Kansas City, Mo. | 11,248.05 | ..... | 16,865.96 |
| Bay State Oil Co., Kansas City, Mo. | 1,719.24 | ..... | 2,582.50 |
| Bay State Oil Co., Kansas City, Mo. | 1,978.88 | ..... | 2,872.15 |
| Bird, J. W., & William Hanley, Bradford, Pa. | 5,143.96 | ..... | 7,106.34 |
| *Berry, G. M., Pawnee | ..... | ..... | 8,933.47 |
| Bell Oil & Gas Co., Tulsa | 4,915.89 | ..... | 7,475.03 |
| *Brazell, James, Oklahoma City | ..... | ..... | 4,225.66 |
| Boring, E. M., Oklahoma City | 15,192.11 | ..... | 19,935.47 |
| *Bristow, R. S., & Alica, Comanche | ..... | ..... | 2,526.23 |
| *Berry, W. E., Stillwater | ..... | ..... | 6,969.95 |
| *Bryant, H. E., Shawnee | ..... | ..... | 2,666.75 |
| *Broyles, W. O., Stillwater | ..... | ..... | 3,167.68 |
| Bridwell Oil Co., Wichita Falls, Tex. | 16,527.34 | ..... | 20,471.98 |
| *Berryhill, Earle, Sapulpa | ..... | ..... | 3,448.26 |
| *Blasdell, Mary, Blackwell | ..... | ..... | 3,344.47 |
| *Burkhalter, L. J., Blackwell | ..... | ..... | 3,033.78 |
| *Buck, J. F., Shawnee | ..... | ..... | 2,305.09 |
| *Bechtel, E. R., Blackwell | 1,640.30 | 1,153 | 2,788.44 |
| *Bristow, Helen, Comanche | ..... | ..... | 2,460.37 |
| Brandenburg, John B., & Michael, & Sons., Norman | ..... | ..... | 24,339.95 |
| *Buck, William, Wetumka | ..... | ..... | 6,684.12 |
| Bissett, Lytle & Gray, Tulsa | 9,091.31 | ..... | 11,297.61 |
| *Buttram, Frank, Oklahoma City | ..... | ..... | 18,638.92 |
| Buttram, Frank, Oklahoma City | 3,608.05 | 13,321 | 5,431.91 |
| Beard, J. G., & S. I. Kolb, Duncan | 9,868.76 | ..... | 16,111.81 |
| *Beard, J. G., & S. I. Kolb & J. L. Crump, Duncan | 4,252.99 | ..... | 5,781.84 |
| Beard & Crump, Duncan | 2,509.38 | ..... | 3,011.42 |
| Beard & Crump, Duncan | 5,776.42 | ..... | 7,446.37 |
| *Bowers, A. E., Wellington, Kans. | ..... | ..... | 2,021.97 |
| *Bolene Refining, Enid | ..... | ..... | 23,746.31 |
| *Boepple, Emma, & Ben, Enid | ..... | ..... | 2,022.23 |
| *Billings, E. M., et al, Enid | ..... | ..... | 2,645.51 |
| *Billings, Walter S., Enid | ..... | ..... | 2,431.27 |
| *Bolene, V. E., Enid | ..... | ..... | 2,095.15 |
| *Bond, I. T., Comanche | ..... | ..... | 3,984.21 |
| *Brown, Phillip, Eufaula | ..... | ..... | 3,062.30 |
| *Bumpass, J. M., Duncan | ..... | ..... | 3,380.05 |
| *Bryan, J. L., Chickasha | ..... | ..... | 2,098.76 |
| *Barnett, John H., Ardmore | ..... | ..... | 2,525.94 |
| Barnsdall Oil Co., Tulsa | 1,345,610.45 | ..... | 1,982,890.15 |
| Barnsdall Oil Co., Tulsa | ..... | Gas | 78,903.34 |
| *Barnsdall Oil Co., Tulsa | 1,949.90 | 1,665 | 2,576.65 |
| Babcock Brothers, Denison, Tex. | 4,543.56 | ..... | 7,611.75 |
| *Billings, George M., estate, Enid | ..... | ..... | 3,011.34 |
| *Burke-Greis Oil Co., Tulsa | ..... | ..... | 18,055.27 |
| Burke-Greis Oil Co., Tulsa | ..... | ..... | 70,433.14 |
| Braden & Moore, Tulsa | 5,922.93 | ..... | 8,055.29 |
| Boggs, Charles W., Los Angeles, Calif. | ..... | ..... | 6,416.24 |
| *Brown, S. J., Duncan | ..... | ..... | 2,731.70 |
| Brady, E. H., Tulsa | 2,026.17 | ..... | 2,588.06 |

| Name and address— | No. of bbls. | M. ft. gas | Amount |
|---|---|---|---|
| *Black, Sivalls & Bryson, Inc., Bartlesville | 2,970.03 | ..... | 4,0[illegible] |
| Black, Sivalls & Bryson, Inc., Bartlesville | 2,767.18 | 4,425 | 3,9[illegible] |
| Breene, Mabel G., Tulsa | 5,906.02 | ..... | 6,8[illegible] |
| Breene, Frank M., trust estate, Tulsa | 5,919.03 | ..... | 7,4[illegible] |
| Burlingame Corp., C. E., Bartlesville | 5,415.01 | ..... | 8,1[illegible] |
| Berry Petroleum Co., Tulsa | 13,729.01 | 6,292 | 19,6[illegible] |
| *Baker, T. J., Okmulgee | ..... | ..... | 6,6[illegible] |
| Baker, Frank A., Tulsa | 49,153.93 | 614 | 74,6[illegible] |
| *Baker, Frank A., Tulsa | 31,236.66 | ..... | 47,8[illegible] |

### C

| | | | |
|---|---|---|---|
| Cities Service Oil Co., Bartlesville | ..... | 923,865 | 76,7[illegible] |
| *Cortez Oil Co., Tulsa | 9,479.53 | ..... | 14,2[illegible] |
| Cortez Oil Co., Tulsa | 1,991.12 | ..... | 3,1[illegible] |
| Creo Oil Co., Tulsa | 5,664.50 | ..... | 6,4[illegible] |
| Cates, Mary C., and Wirt Franklin, by Liberty National Bank, trustee | 2,354.59 | 432 | 2,9[illegible] |
| *Cherry, L. L., Lindsay | 3,046.60 | ..... | 3,2[illegible] |
| *Cherry, V. H., Lindsay | ..... | ..... | 11,3[illegible] |
| Caddo Oil Co., Tulsa | 31,934.64 | ..... | 41,3[illegible] |
| Commonwealth Trust Co., Okmulgee | 4,317.01 | ..... | 6,1[illegible] |
| Crockett Hayes, Elizabeth R., Oklahoma City | 4,855.19 | ..... | [illegible] |
| Coline Oil Co., Oklahoma City | 54,287.66 | ..... | 49,7[illegible] |
| *Cruce, M. K., Oklahoma City | ..... | ..... | 2,4[illegible] |
| *Cronell, Herman D., exec., Tulsa | ..... | ..... | 3,5[illegible] |
| *Central Oil Royalties, Inc., New York, N. Y. | ..... | ..... | 10,7[illegible] |
| Continental Oil & Refining Co., Independence, Kans. | 4,387.05 | ..... | 5,2[illegible] |
| Crosbie, J. E., Inc., Tulsa | ..... | ..... | 50,3[illegible] |
| Continental Oil Co., Wichita Falls, Tex. | 16,532.32 | 29,508 | 22,1[illegible] |
| Continental Oil Co., Denver, Colo. | 143,664.51 | 64,718 | 207,3[illegible] |
| *Chilcoat, C. Fred, Wewoka | ..... | ..... | 2,5[illegible] |
| Critchlow, W. S., Ardmore | 7,062.00 | ..... | 11,0[illegible] |
| Cudahay Oil Co., Cleveland, Ohio | 12,585.28 | ..... | 14,1[illegible] |
| *Carter, Joe, Wewoka | ..... | ..... | 4,4[illegible] |
| Clark & Cowden, Duncan | ..... | ..... | 27,3[illegible] |
| *Cox, Anna Elizabeth, Ardmore | ..... | ..... | 2,7[illegible] |
| *Cal-Cul Oil Co., Okmulgee | ..... | ..... | 2,9[illegible] |
| Cedar Gas Co., Bartlesville | ..... | 71,383 | 4,9[illegible] |
| *Cox, Edwin B., and Jake L. Hamon, Ardmore | ..... | ..... | 41,2[illegible] |
| Cushing Refining & Gasoline Co., Cushing | ..... | ..... | 7,3[illegible] |
| *Cherry, Mrs. Clara, Shawnee | ..... | ..... | 2,9[illegible] |
| *Cherry, C. C., Maud | ..... | ..... | 29,6[illegible] |
| Canary, S. C., Tulsa | 6,299.03 | ..... | 7,7[illegible] |
| Cotton Belt Petroleum Co., Tulsa | 38,367.96 | 97,563 | 52,2[illegible] |
| *Cecil, W. H., Tecumseh | ..... | ..... | 2,5[illegible] |
| Connelly, G. W., Caney, Kans. | ..... | ..... | 8,2[illegible] |
| *Cowden, E. A., Shawnee | ..... | ..... | 5,0[illegible] |
| Consolidated Gas Utilities Co., Oklahoma City | 1,047.68 | 331,827 | 19,6[illegible] |
| *Chowning, V. K., Okemah | ..... | ..... | 2,0[illegible] |
| Central Valley Oil Co., Cleveland, Ohio | ..... | ..... | 3,0[illegible] |
| *Canadian Royalty Co., London, Ontario, Canada | ..... | ..... | 2,4[illegible] |
| Champlin & Bass, Inc., Holdenville | 3,747.85 | ..... | 5,2[illegible] |
| *Chisum W. C., Sr., Oklahoma City | ..... | ..... | 4,8[illegible] |
| *Chiefton Royalty Corp., Tulsa | ..... | ..... | 2,6[illegible] |
| *Cline, William S., Newkirk | ..... | ..... | 3,8[illegible] |
| Commercial Drilling Co., Tulsa | 4,427.63 | ..... | 5,3[illegible] |
| *Cook, Annie S., Muskogee | ..... | ..... | 7,6[illegible] |
| *Clark, Dillard H., Jr., Ponca City | ..... | ..... | 4,6[illegible] |
| *Clubb, I. M., Kaw City | 7,307.37 | ..... | 11,6[illegible] |
| *Clubb, Laura A., Tulsa | ..... | ..... | 11,5[illegible] |
| Caldwell, Warner, Oil Co., Titusville, Pa. | 24,755.35 | ..... | 34,5[illegible] |
| *Caudill, Samuel J., Tulsa | 1,571.12 | ..... | 2,4[illegible] |
| *Coast, J. W., Jr., Tulsa | 2,964.53 | ..... | 4,5[illegible] |
| Conservation Oil Co., Tulsa | 9,915.28 | ..... | 14,2[illegible] |
| *Columbus Royalty Co., Tulsa | ..... | ..... | 2,9[illegible] |
| Carter Oil Co., Tulsa | ..... | Gas | 361,6[illegible] |
| Carter Oil Co., Tulsa | 3,508,225.03 | ..... | 5,013,5[illegible] |
| *Carter Oil Co., Tulsa (suspense) | ..... | ..... | 10,2[illegible] |
| *Continental Oil Co., Tulsa | 2,690.14 | ..... | 5,7[illegible] |
| *Continental Royalties Corp., Tulsa | 1,358.17 | ..... | 2,1[illegible] |
| Comar Oil Co., St. Louis, Mo. | 700,706.55 | ..... | 1,161,6[illegible] |
| Champlin Refining Co., Enid | 310,954.88 | 546,653 | 558,7[illegible] |
| *Crude Oil Royalties Corp., New York, N. Y. | ..... | ..... | 12,6[illegible] |
| *Chambers, O. L., Tonkawa | ..... | ..... | 2,3[illegible] |
| Chisum, W. C., Jr., Oklahoma City | ..... | ..... | 8,2[illegible] |
| Central States Production Corp., Tulsa | ..... | 466,973 | 37,6[illegible] |
| *Campbell, J. D., Seminole | ..... | ..... | 30,3[illegible] |
| *Crude, W. I., et al, Ardmore | 3,626.88 | ..... | 4,4[illegible] |
| Crosbie, J. S., Inc., of Okla., Fort Worth, Tex. | 37,296.34 | ..... | 64,0[illegible] |
| Cotton Creek Oil Co., Wichita Falls, Tex. | 8,009.73 | ..... | 10,4[illegible] |
| Cumberland Petroleum Co., Cleveland, Ohio | 6,676.43 | ..... | 7,6[illegible] |
| *Commercial Drilling Co., Tulsa (escrow) | ..... | ..... | 5,6[illegible] |
| Crews estate, Enid | 8,167.61 | 9,946 | 17,0[illegible] |
| *Crews, L. E., heirs, Enid | 1,166.80 | ..... | 2,2[illegible] |
| *Central Valley Oil Co., Cleveland | ..... | ..... | 3,0[illegible] |
| *Colonial Royalties Co., Tulsa | ..... | ..... | 7,8[illegible] |
| *Cargile, C. W., Okemah | ..... | ..... | 2,6[illegible] |
| Central Commercial Oil Co., Tulsa | 7,903.11 | ..... | 12,1[illegible] |
| Caldwell, Warner, Oil Co., Titusville, Pa. | 30,544.38 | ..... | 34,5[illegible] |
| *Carpenter, R. C., Elizabeth, N. J. | ..... | ..... | 5,7[illegible] |
| *Clark, H. E., Okmulgee | ..... | ..... | 7,8[illegible] |
| *Cherokee Warren Oil & Gas Co., Tulsa | 7,126.44 | ..... | 8,3[illegible] |

### D

| | | | |
|---|---|---|---|
| *Davis, Euler, Clearview | ..... | ..... | 4,2[illegible] |
| Davis, Joseph, Tulsa | 4,751.31 | ..... | 47,1[illegible] |
| *Danner, H. R., Indianapolis, Ind. | ..... | ..... | 2,7[illegible] |
| *Danner, Caroline Burford, Indianapolis, Ind. | ..... | ..... | 2,7[illegible] |
| *Darby, J. F., Muskogee | ..... | ..... | 2,5[illegible] |
| Delaware Consolidated Oil Co., Tulsa | 44,962.06 | ..... | 52,2[illegible] |
| *Dixon, W. L., Duncan | 1,661.06 | ..... | 2,0[illegible] |
| *Dickason, Elmer, Gueda Springs, Kans. | ..... | ..... | 2,3[illegible] |
| *Dickson, J. H., Tulsa | 6,574.71 | ..... | 10,0[illegible] |
| *Dillard, Mrs. V. E., Ardmore | ..... | ..... | 4,3[illegible] |
| Don Oil Co., Blackwell | ..... | 78,483 | 6,7[illegible] |
| Deaner, J. J., Okmulgee | 7,466.28 | ..... | 11,3[illegible] |
| *Deaner, J. J., Okmulgee | 1,782.41 | ..... | 2,8[illegible] |
| Dixie Oil Co., Shreveport, La. | 92,187.00 | 358,705 | 156,8[illegible] |
| *Denney, C. E., Alma | ..... | ..... | 2,4[illegible] |
| *Diffie, A. J., Tulsa | ..... | ..... | 4,7[illegible] |
| *Dickson Oil Royalty Co., Tulsa | ..... | ..... | 2,4[illegible] |
| *Dilley, W. Y., trustee, Waurika | ..... | ..... | 3,9[illegible] |
| *Douglas Oil Co., Tulsa | ..... | ..... | 4,0[illegible] |
| *Dodson, V. A., Dustin | ..... | ..... | 3,9[illegible] |
| *Diester, Martin, and E. G. Ward, Tecumseh | ..... | ..... | 2,6[illegible] |
| *Doneghy, J. C., Tulsa | 13,420.06 | ..... | 22,0[illegible] |
| *Duff, D. B., Cleveland, Ohio | ..... | ..... | 5,6[illegible] |
| *Duke, W. R., Wichita Falls, Tex. | ..... | ..... | 3,2[illegible] |
| Delmore Oil Co., Bartlesville | 19,052.07 | 34,644 | 30,2[illegible] |
| *Delk Investment Corp., St. Louis, Mo. | ..... | ..... | 3,9[illegible] |
| *Dowrell, J. F., and Mary, Stroud | ..... | ..... | 2,2[illegible] |
| *Davis, B. F., Wewoka | ..... | ..... | 19,8[illegible] |
| *Day, J. F., Earlsboro | 1,895.73 | ..... | 3,1[illegible] |
| *Day, Annie, Earlsboro | 3,791.48 | ..... | 6,3[illegible] |
| Diamond, Harry H., Oil Co., Holdenville | ..... | ..... | 5,6[illegible] |
| Denver Producing & Refining Co., Okmulgee | 23,943.99 | ..... | 34,4[illegible] |
| *Denver Producing & Refining Co., Okmulgee | ..... | ..... | 172,8[illegible] |
| *Douglas, M. S., Weleetka | ..... | ..... | 4,5[illegible] |
| Deister, Martin, and E. G. Ward, Tecumseh | ..... | ..... | 2,9[illegible] |
| *Dillard, J. H., estate of, Vida Dillard, executrix, Ardmore | ..... | ..... | 6,7[illegible] |
| Davis, E. D., Oil Co., Oklahoma City | ..... | ..... | 7,2[illegible] |
| *Doss Oil Royalty Co., Oklahoma City | 16,486.62 | ..... | 21,9[illegible] |
| Devonian Oil Co., Tulsa | 47,208.84 | ..... | 64,2[illegible] |
| Devonian Oil Co., Tulsa | ..... | Gas | 9,2[illegible] |
| *Dillard, C. F., Atoka | ..... | ..... | 2,6[illegible] |
| *Douglas, C. H., Okmulgee | ..... | ..... | 8,7[illegible] |
| *Douglas, D. T., Shawnee | ..... | ..... | 3,7[illegible] |
| Deep Rock Oil & Refining, Tulsa | 31,051.18 | 10,866 | [illegible] |
| Deep Rock Oil & Refining, Tulsa | ..... | 183,662CH | 50,6[illegible] |
| *Dourdy, Anna Maud, Brighton, Colo. | ..... | ..... | 2,2[illegible] |
| *Deaner, J. J., Okmulgee | 1,792.41 | ..... | 2,4[illegible] |
| Deaner, J. J., Okmulgee | 7,466.28 | ..... | 11,2[illegible] |

(Continued on Page 105)

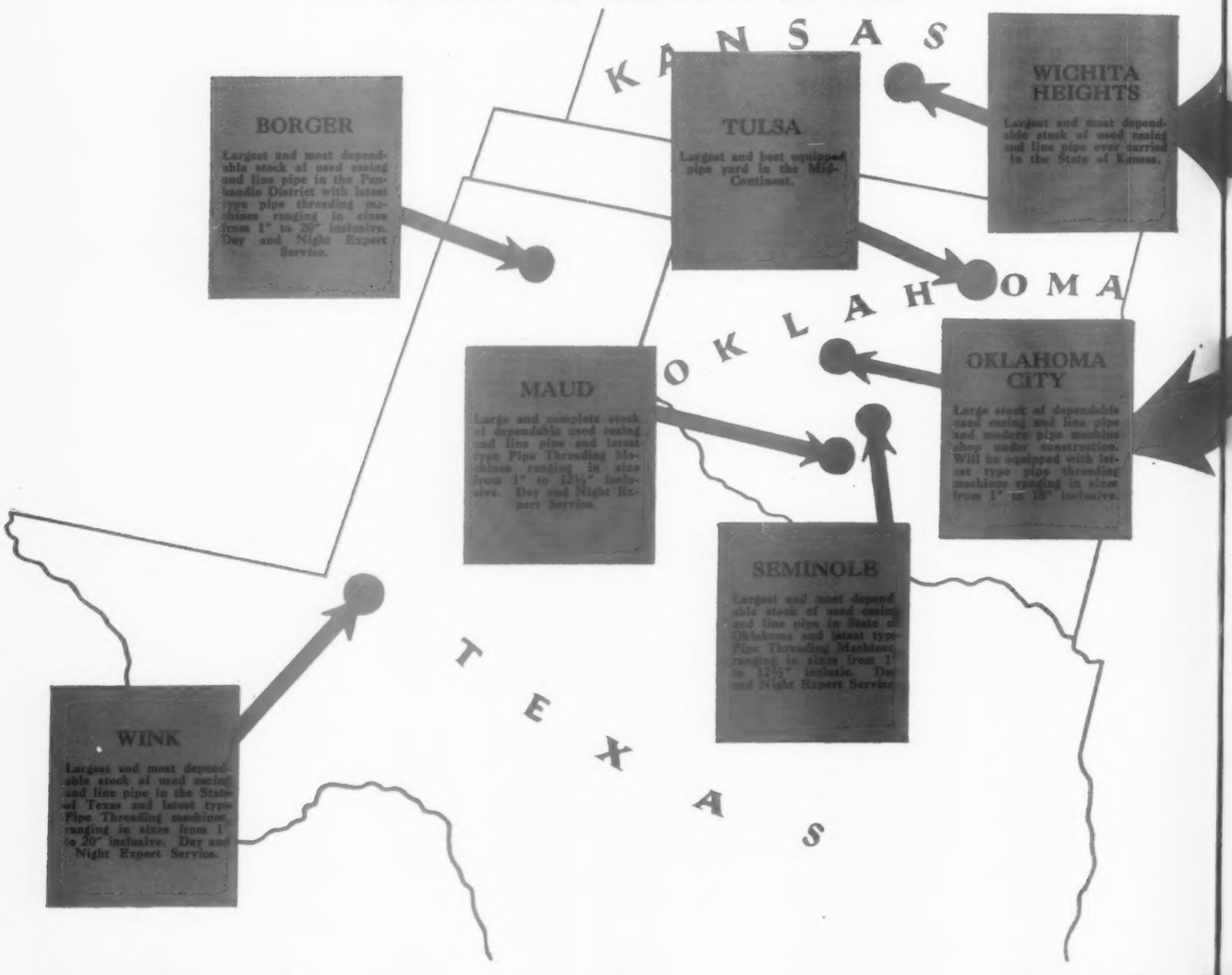
| Name and address— | No. of bbls. | M. ft. gas | Amount |
|---|---|---|---|
| Duncan Wichita Falls Pipe Line Co., Wichita Falls, Tex. | 6,728.26 | ..... | 9,807.19 |
| Dixie Oil Co., Inc., Shreveport, La. | 92,187.00 | 358,705 | 156,827.52 |
| Darby Petroleum Co., Tulsa | 105,871.28 | 1,422 | 249,421.04 |
| **E** | | | |
| *Eason, T. T., Enid | 1,659.70 | ..... | 2,725.83 |
| Eason, T. T., Enid | 5,071.75 | ..... | 7,255.75 |
| Emery, Lewis, Jr., and Sons, Bradford, Pa. | 6,524.81 | ..... | 6,735.30 |
| Elm Oil Co., Tulsa | 2,301.46 | ..... | 3,289.44 |
| *Elm Oil Co., Tulsa | 8,402.47 | 12,023 | 11,078.13 |
| Elliott and Vensel, Tulsa | 6,652.69 | ..... | 7,022.27 |
| *Equitable Royalty Corp., Shawnee | ..... | ..... | 41,512.20 |
| Enid Bank and Trust, Enid | ..... | ..... | 7,828.72 |
| Erlewine, A. J., Wilson | 6,957.60 | ..... | 8,403.45 |
| Elswick, P. C., Lamont | ..... | ..... | 6,658.97 |
| *Empire Oil & Refining, Bartlesville | 15,961.91 | ..... | 23,308.35 |
| Empire Oil & Refining, Bartlesville | 214,454.14 | ..... | 315,138.12 |
| Empire Oil & Refining, Bartlesville | ..... | Gas CH | 19,616.55 |
| *Empire Oil & Refining, Bartlesville | ..... | Gas CH | 1,244.44 |
| *Empire Oil & Refining, suspense acct., Bartlesville | 2,690.83 | ..... | 4,478.26 |
| *Empire Oil & Refining, suspense acct., Bartlesville | ..... | ..... | 2,228.48 |
| *Empire Oil & Refining, suspense acct., Bartlesville | ..... | ..... | 3,592.57 |
| *Empire Oil & Refining, suspense acct., Bartlesville | ..... | ..... | 9,145.93 |
| *Empire Oil & Refining, suspense acct., Bartlesville | ..... | ..... | 5,118.45 |
| *Empire Oil & Refining, suspense acct., Bartlesville | ..... | ..... | 3,041.59 |
| *Empire Oil & Refining, suspense acct., Bartlesville | ..... | ..... | 9,711.29 |
| *Ellison, W. H., Asher | ..... | ..... | 9,695.36 |
| *Eastern Royalties Corp., New York, N. Y. | 2,526.89 | 51,866 | 7,530.25 |
| *Eagle Picher Lead Co., Henryetta | 1,770.17 | ..... | 2,305.22 |
| Elaine Oil Co., Tulsa | ..... | ..... | 8,232.08 |
| *Ellis, Lea R., Fort Worth, Tex. | ..... | ..... | 6,790.63 |
| Ellis Drilling Co., Wichita Falls | 4,960.79 | ..... | 7,965.14 |
| Elliott and Smith, Tulsa | 5,719.76 | ..... | 3,517.64 |
| *Engineers Royalties, Inc., New York, N. Y. | ..... | ..... | ..... |
| **F** | | | |
| *Foster Petroleum Corp., Bartlesville | 9,794.70 | ..... | 14,506.85 |
| Foster and Davis, Bartlesville | 8,493.98 | ..... | 11,284.05 |
| Foster Petroleum Corp., Bartlesville | 186,378.07 | ..... | 253,749.10 |
| Franklin, Wirt, Petroleum Corp., Ardmore | 196,900.39 | ..... | 240,689.38 |
| *Fox Royalty Co., Tulsa | 6,347.18 | ..... | 6,874.48 |
| *Ford, Frances P., Shawnee | ..... | ..... | 2,876.00 |
| *Farwell, K. C., Chickasha | ..... | ..... | 6,752.18 |
| Fuhrman Petroleum Co., Okmulgee | ..... | ..... | 259,144.56 |
| *Fox Royalty Co., Tulsa | 4,196.22 | ..... | 4,267.88 |
| *Frederick, Fred J., Los Angeles, Calif. | ..... | ..... | 2,036.84 |
| *Falkenburg, C. W., Wewoka | 2,048.83 | ..... | 3,275.29 |
| *Fennell, J. F., Pauls Valley | ..... | ..... | 2,880.91 |
| *Fenner, E. E., Alfred, N. Y. | ..... | ..... | 2,884.15 |
| Franklin, Wirt, Liberty National Bank trustee for, Oklahoma City | 3,883.72 | 940 | 4,783.12 |
| *Folk, H. B., Sand Springs | 2,762.86 | ..... | 4,378.41 |
| *Frazier, G. W., Kingfisher | ..... | ..... | 18,379.56 |
| *Fixico Minors, Okmulgee | 1,323.57 | ..... | 1,993.95 |
| Franchot, D. W., & Co., Tulsa | 33,922.10 | ..... | 45,127.34 |
| *Fugate, S. M., guardian, Maramec | ..... | ..... | 2,121.18 |
| *Fondren, W. W., Houston, Tex. | 2,006.41 | ..... | 2,684.60 |
| *Flanagan, J. P., Tulsa | 16,187.68 | ..... | 16,956.25 |
| *Franks, Rosie J., Seminole | ..... | ..... | 9,485.06 |
| *Franks, W. H., Seminole | ..... | ..... | 17,921.18 |
| *Fore, J. C., Wewoka | ..... | ..... | 4,340.72 |
| Fern Oil & Gas Co., Yale | 17,041.94 | ..... | 24,534.69 |
| *First National Bank, Chickasha | ..... | ..... | 2,295.83 |
| Fort Ring Oil & Gas, Fort Worth, Tex. | 8,428.95 | 2,104 | 11,925.82 |
| Future Development Co., Tulsa | ..... | ..... | 8,031.59 |
| Fitzgerald, D. C., trustee, Ardmore | 4,752.86 | ..... | 6,034.85 |
| *Franklin, Wirt, Ardmore | 10,585.35 | ..... | 13,459.99 |
| *Fried, N. C., and Samuel, Sulphur | ..... | ..... | 25,544.70 |
| *Fleet, Alice, guardian, Ada | ..... | ..... | 4,121.96 |
| *Fleet, Alice, Ada | ..... | ..... | 2,226.14 |
| *Fleet, John, Ada | ..... | ..... | 2,246.96 |
| *Fleet, D. F., Ada | ..... | ..... | 20,985.88 |
| Flynn Oil Co., Oklahoma City | 17,846.30 | ..... | 25,390.07 |
| Finance Oil Co., Towanda, N. Y. | 13,871.45 | ..... | 18,291.40 |
| *Fyke, Laura L., Shawnee | ..... | ..... | 14,600.53 |
| *Foster, James F., Anthony, N. Mex. | ..... | ..... | 5,492.73 |
| *Funk, J. R., Duncan | ..... | ..... | 5,660.66 |
| Flint and Bovaird, Tulsa | ..... | ..... | 5,176.09 |
| *Ficken, Emilie, Marshall | ..... | ..... | 2,265.01 |
| Foster Oil Co., Tulsa | ..... | ..... | 10,433.47 |
| *Freed, Jos. D. R., New York, N. Y. | ..... | ..... | 2,587.50 |
| Freed, Mrs. Gertrude M., New York, N. Y. | ..... | ..... | 2,408.31 |
| **G** | | | |
| *Grisso, W. E., Seminole | 4,538.78 | 1,537 | 10,136.37 |
| Galvez Oil Corp., Tulsa | ..... | ..... | 8,559.64 |
| *Goforth, Mary B., Shawnee | ..... | ..... | 9,576.92 |
| *Gragg, C. E., Paden | ..... | ..... | 2,469.09 |
| *Green, J. D., Maud | ..... | ..... | 4,112.41 |
| *Greer, F. H., Tulsa | ..... | ..... | 2,249.82 |
| *Grisso, W. E., Seminole | ..... | ..... | 9,665.54 |
| *Grisso, W. E., Seminole | ..... | ..... | 26,223.44 |
| *Grisso, W. D., Seminole | ..... | ..... | 17,590.42 |
| Gilmer Oil Co., Ardmore | ..... | ..... | 64,531.53 |
| Gilcrease Oil Co., Tulsa | 44,206.81 | 375 | 58,273.37 |
| *Gelser, H. A., Fillmore, N. Y. | ..... | ..... | 3,374.00 |
| Gaskill, M. E., Tulsa | 24,557.37 | 3,195 | 36,571.96 |
| *Gillette, J. M., Tulsa | 4,240.28 | ..... | 6,045.76 |
| Gray Oil Co., Tulsa | 37,797.78 | ..... | 53,497.69 |
| Graves, John P., Terlton | ..... | ..... | 12,809.00 |
| *General Royalties Corp., Enid | ..... | ..... | 2,634.49 |
| *Gant, Walter H., N. B. Feagin and Knox L. Garvin, Ardmore | ..... | ..... | 4,377.56 |
| *Graham, W. A., estate of, Clarion, Pa. | ..... | ..... | 3,771.75 |
| Graham, Florence N., trustee, Montebello, Calif. | 7,109.93 | ..... | 11,555.44 |
| *Glenny, Ethel, Blackwell | ..... | ..... | 3,344.47 |
| *Goltry, V. L., trustee, Enid | ..... | ..... | 3,462.80 |
| *Getzelman, B. C., Algonquin, Ill. | ..... | ..... | 32,529.50 |
| *Glass, J. Wood, Nowata | 4,655.12 | ..... | 5,939.67 |
| Glass and Harmon, Nowata | 9,802.36 | ..... | 13,164.65 |
| Goldelline Oil Corp., Oklahoma City | 9,847.90 | ..... | 13,377.07 |
| *Gabogen, Annie, and L. S. Youngblood, Wewoka | ..... | ..... | 11,325.31 |
| Glidden Oil Corp., Tulsa | 7,078.54 | 40,094 | 9,588.67 |
| Glidden Oil Corp., Tulsa | ..... | ..... | 540.65 |
| Grimes and Gillespie, Tulsa | 12,633.40 | ..... | 18,418.25 |
| Graham, James H., Tulsa | 6,227.55 | ..... | 9,092.21 |
| Green, Myrtle, et al, Oklahoma City | ..... | ..... | 5,074.29 |
| *Greer, J. C., trustee for Louise Strother, Martinville, Va. | ..... | ..... | 2,212.69 |
| *Guaranty Trust Co., New York, N. Y. | ..... | ..... | 49,695.94 |
| *Gragg, C. E., Paden | ..... | ..... | 2,323.41 |
| Gragg, C. E., Paden | ..... | ..... | 11,595.91 |
| *Grisso, W. E., Tulsa | ..... | ..... | 3,873.08 |
| *Graham, W. O., estate, Clarion, Pa. | ..... | ..... | 3,771.75 |
| *Graham, Florence N., Tulsa | ..... | ..... | 16,925.44 |
| Gardner Petroleum Co., Tulsa | 23,513.07 | ..... | 38,127.84 |
| Gates Oil Co., Ardmore | 9,781.02 | ..... | 10,865.00 |
| C. O. Gregg, Ardmore | 4,526.79 | 227 | 5,872.52 |
| *Gully, J. C., Oklahoma City | ..... | ..... | 2,140.03 |
| Gled Oil Co., Tulsa | 17,426.78 | ..... | 28,733.30 |
| Gorton Trust, Cement | 8,923.87 | ..... | 11,532.56 |
| *Green, S. D., trustee, Maud | ..... | ..... | 2,695.29 |
| Garland, R. F., Co., Tulsa | 19,003.08 | 9,320 | 31,545.55 |
| *Garfinkel, Max, Long Beach, Calif. | ..... | ..... | 2,924.98 |
| Grady County Oil Corp., Oklahoma City | ..... | ..... | 7,788.82 |
| *Gount, L. D., Cushing | ..... | ..... | 2,604.56 |
| Gray Oil Co., Tulsa | 37,797.78 | 111 | 53,497.69 |
| *Greer, F. H., trustee, Tulsa | ..... | ..... | 2,877.69 |
| *Greer, F. H., trustee, Tulsa | ..... | ..... | 3,781.50 |
| Gypsy Oil Co., Tulsa (suspense) | 9,101.19 | ..... | 15,115.01 |
| *Gypsy Oil Co., Tulsa | 1,952.59 | ..... | 2,530.87 |
| Gypsy Oil Co., Tulsa, (suspense) | 4,144.62 | ..... | 5,915.92 |
| Gypsy Oil Co., Tulsa | 4,329,398.48 | 3,951,235 | 6,752,638.66 |
| Gypsy Oil Co. on account of partners, Tulsa | 11,952.51 | ..... | 15,644.99 |
| Graham, O. F., and Crisella Graham, Tulsa | 2,748.95 | ..... | 2,158.18 |
| **H** | | | |
| Humble Oil & Refining Co., Houston, Tex. | ..... | ..... | 15,458.56 |
| Humble Oil & Refining Co., Houston, Tex. | 260,134.91 | ..... | 296,398.39 |
| *Hudson, Hargrove, Tulsa | ..... | ..... | 28,860.23 |
| *Hill, P. J., Shawnee | ..... | ..... | 9,426.34 |
| *Hefner Co., Oklahoma City | ..... | ..... | 5,927.64 |
| *Harris, Dratha, Maud | ..... | ..... | 3,285.91 |
| *Haun, Carl B., Buckwell | ..... | ..... | 16,592.57 |
| Hearn, G. W., paid by Shell Petroleum (suspense) | ..... | ..... | 4,159.50 |
| Harber, A., Seminole (suspense) | ..... | ..... | 4,390.65 |
| *Harris, Roy, Maud | 25,467.53 | ..... | 29,794.31 |
| Hemlock Oil Co., Tulsa | ..... | ..... | 4,380.51 |
| *Hefner Co., Oklahoma City | ..... | ..... | 2,073.85 |
| *Harmon, C. C., Nowata | ..... | ..... | 6,075.97 |
| Hazlett, A. G., Okmulgee | ..... | ..... | 2,173.82 |
| *Harris, V. V., Oklahoma City | ..... | ..... | 161,164.08 |
| Highway Oil Refining Corp., Tulsa | 195,235.87 | ..... | 10,225.33 |
| Hall and Briscoe, Chickasha | 11,495.87 | ..... | 8,384.82 |
| *H——, E. D., attorney for Thomas Ryan, Wetumka | ..... | ..... | 2,277.26 |
| *Harwell, E. P., trustee, Tulsa | ..... | ..... | 2,581.69 |
| *Harris, Bert, Maud | ..... | ..... | 23,175.29 |
| Harris & Haun, Inc., Blackwell | ..... | ..... | 17,929.15 |
| Henry and Karchner, Tulsa | 167.94 | 80,248 | 6,660.68 |
| Henry, J. W., Altus | 7,660.28 | ..... | 13,240.41 |
| *Hull, J. C., Seminole | ..... | ..... | 4,900.74 |
| *Healdton Oil & Gas Co., Enid | 3,249.51 | ..... | 5,347.26 |
| *Healdton Oil & Gas Co., Enid | 15,689.57 | ..... | 28,019.71 |
| Hayden, John F., Tulsa | 4,130.18 | ..... | 5,834.78 |
| *Hesslem, Max, New York, N. Y. | ..... | ..... | 6,783.25 |
| Harold Petroleum Co., Blackwell | ..... | ..... | 17,929.15 |
| *Hammons, J. P., Shawnee | ..... | ..... | 33,044.40 |
| *Harris-Hays Co., Okmulgee | 9,956.12 | ..... | 15,685.96 |
| Howard, O. R., Tulsa | 214,501.48 | ..... | 327,255.56 |
| *Horton, E. N., Ardmore | ..... | ..... | 2,413.11 |
| *Hilltop Investment Co., St. Louis | ..... | ..... | 10,542.82 |
| *Hayner, W. A., Shreveport, La. | ..... | ..... | 6,429.65 |
| Henderson Oil Co., Marietta, Ohio | 6,908.17 | ..... | 8,244.97 |
| Hughes, T. J., Cushing | ..... | ..... | 7,591.30 |
| *Harris, Enoch M., Berwyn | ..... | ..... | 3,110.30 |
| *Harris Hays Co., Okmulgee | 9,956.12 | ..... | 15,685.96 |
| *Harris, A. L., Shawnee | ..... | ..... | 4,244.54 |
| *Harris, E. L., trustee, Wewoka | 11,019.34 | ..... | 16,733.57 |
| *Harris, E. L., trustee, Wewoka | 7,321.55 | ..... | 10,732.52 |
| *Hayner Royalty Corp., Tulsa | ..... | ..... | 3,907.49 |
| Hambro Oil Co., St. Louis, Mo. | 4,772.31 | ..... | 6,013.11 |
| *Hanson, Edwin, Duncan | ..... | ..... | 2,782.51 |
| *Hales, W. T., Oklahoma City | 2,052.70 | 814 | 2,859.47 |
| *Hales, W. T., Oklahoma City | 53,754.77 | 68,864 | 67,553.52 |
| *Hall, E. F., Okemah | ..... | ..... | 2,050.13 |
| Harland Oil Co., Waco, Tex. | 16,502.58 | 57,349 | 21,820.23 |
| *Hartley, J. C., Garber | ..... | ..... | 6,196.77 |
| *Hammons, S. B., Seminole | ..... | ..... | 6,447.93 |
| *Harber, J. N., Seminole | ..... | ..... | 4,101.71 |
| *Harber and Riddle, Inc., Seminole | ..... | ..... | 4,126.14 |
| *Harber, R. T., Seminole | ..... | ..... | 1,501.28 |
| Homaokla Oil Co., Oklahoma City | 214,102.06 | ..... | 257,718.26 |
| *Homaokla Oil Co., Oklahoma City | 11,223.90 | ..... | 12,773.81 |
| *Hubbard, Robert A., Walpole, N. H. | ..... | ..... | 8,420.09 |
| *Hyde, C. B., Oklahoma City | ..... | ..... | 3,414.37 |
| *Hopkins, A. N., Davenport | 1,446.92 | 4,402 | 2,396.09 |
| *Hernstadt, Nora, New York, N. Y. | 3,663.19 | ..... | 4,431.51 |
| *Harreld, Ward, Oklahoma City | ..... | ..... | 2,228.89 |
| Halsell & Son Oil & Gas Co., Vinita | 4,126.15 | 24,393 | 5,959.04 |
| *Halsell, Ewing, Vinita | 1,855.40 | 3,337 | 2,737.09 |
| Howard Petroleum Corp., Tulsa | 38,534.01 | ..... | 58,491.19 |
| Hull, J. A., Co., Tulsa | 46,212.49 | 184 | 73,258.68 |
| *Horton, A. D., agent, Shawnee, Iowa | 5,975.47 | ..... | 6,788.53 |
| *Homesley, U. C., Earlsboro | ..... | ..... | 2,607.77 |
| *Hershey, J. H., trustee, Wichita, Kans. | ..... | ..... | 2,055.09 |
| Houston Oil Co. of Texas, Houston, Tex. | 18,616.68 | 2,099 | 28,714.95 |
| *Homestake Oil & Gas Co., Tulsa | Oil | ..... | 189,252.52 |
| *Homestake Oil & Gas Co., Tulsa | ..... | Gas | 9,616.42 |
| *Home Gas Co. of Cushing, Cushing | 2,130.57 | ..... | 3,279.27 |
| Home Gas Co. of Cushing, Cushing | ..... | ..... | 20,202.26 |
| *Hudspeth, A. G., Lexington | ..... | ..... | 10,924.24 |
| *Hightower, W. E., Oklahoma City | 2,209.32 | ..... | 3,284.00 |
| *Hembree, Orville, Maud | ..... | ..... | 3,697.36 |
| *Hayes, J. S., Newkirk | ..... | ..... | 2,826.00 |
| Hayes, Elizabeth Crockett, Oklahoma City | ..... | ..... | 4,855.19 |
| *Hale, E. F., Okemah | ..... | ..... | 2,050.13 |
| **I** | | | |
| *Ingram, Leonard D., Cleveland, Ohio | ..... | ..... | 2,179.29 |
| *Ingram, H. L., Shawnee | ..... | ..... | 5,138.72 |
| *Ingram Royalty Co., Shawnee | ..... | ..... | 9,044.60 |
| *Ingram, J. A. and Emily, Shawnee | ..... | ..... | 39,266.94 |
| Indian Terr. Illuminating Oil Co., Bartlesville | 33,331.64 | 24,501 CH | 53,893.82 |
| *Indian Terr. Illum. Oil Co., Bartlesville (suspense) | ..... | ..... | 4,028.87 |
| Indian Terr. Illum. Oil Co., Bartlesville | 1,206,035.78 | 1,584 | 2,065,502.16 |
| Iron Mountain Oil Co., Tulsa | 12,234.84 | 14,189 | 15,776.82 |
| *Imperial Royalties Co., Kansas City, Mo. | ..... | ..... | 157,681.97 |
| *Iseman, Harold M., New York, N. Y. | ..... | ..... | 3,607.98 |
| Irelan, O. M., Sapulpa | 5,032.26 | 9,114 | 7,522.09 |
| Imo Oil & Gas Co., Covington | ..... | ..... | 14,205.89 |
| Indiana Oil & Gas Co., Tulsa | 26,697.50 | 19,575 | 40,243.63 |
| *Indian Royalty Co., Okmulgee | 176,542.64 | ..... | 275,289.15 |
| Ice Drilling Co., Tulsa | 4,579.85 | 762 | 7,187.92 |
| *Investors Royalty, Inc., Tulsa | 106,934.70 | ..... | 163,101.65 |
| Interocean Oil Co., Tulsa | 63,344.48 | ..... | 90,771.30 |
| Illinois Refining Co., Stillwater | 5,777.23 | ..... | 6,621.72 |
| Independent Oil & Gas Co., Tulsa | 2,637,648.30 | ..... | 4,093,206.08 |
| Independent Oil & Gas Co., Tulsa | 1,824,996 | ..... | 99,209.22 |
| *Independent Oil & Gas Co., Tulsa | 12,763.49 | ..... | 21,068.05 |
| **J** | | | |
| *Jenkins, Florence, & Mayme Walker, Tulsa | ..... | ..... | 9,562.43 |
| *Jenkins, P. J., Okemah | ..... | ..... | 2,050.13 |
| Jennings, E. H., Brothers Co., Pittsburgh, Pa. | 3,934.47 | 1,372 | 4,481.10 |
| Jennings, R. G., Pittsburgh, Pa. | 6,529.15 | 7,296 | 10,799.50 |
| *Jennings, Randolph P., Beverly Hills, Calif. | ..... | ..... | 78,682.12 |
| *Joines, U. J., Ardmore | ..... | ..... | 5,517.39 |
| Jackson, L. B., Sapulpa | ..... | ..... | 12,516.63 |
| *Jackson, L. B., Sapulpa | ..... | ..... | 7,048.17 |
| Jackson & Wise, Sapulpa | ..... | ..... | 5,962.73 |
| *Jameson, John B., Concord, N. H. | 56,423.34 | ..... | 87,061.58 |
| Josey Oil Co., Tulsa | 169,366.13 | ..... | 284,372.88 |
| Josey Oil Co., Tulsa | ..... | 180,514 | 12,861.41 |
| Junction Oil & Gas Co., Newkirk | ..... | ..... | 6,477.67 |
| *Johnson, C. O., & George C. Pendleton, receivers, Durant | ..... | ..... | 7,407.93 |
| *Johnson, B. F., & Mary Eva, Seminole | ..... | ..... | 4,665.52 |
| Johnson Oil & Refining Co., Chicago, Ill. | 4,268.56 | ..... | 6,045.10 |
| *Hill, Johnson D., Tulsa | 2,539.31 | ..... | 4,010.24 |
| *Johnston, Willard, Shawnee | ..... | ..... | 5,614.41 |
| *Jones, Robert L., Bristow | 2,201.18 | 9,808 | 4,405.22 |
| Jones, R. C., & Co., Inc., Cushing | ..... | ..... | 16,454.77 |
| *Jones, J. Edward, New York, N. Y. | ..... | ..... | 10,275.29 |
| **K** | | | |
| *Korff, F. H. Korff, New York, N. Y. | ..... | ..... | 8,330.41 |
| *Kenealy, W. J., Elizabeth, N. J. | ..... | ..... | 5,977.79 |
| Kennedy, S. P., Bradford, Pa. | 1,833.26 | ..... | 2,475.45 |
| King, J. T., Okmulgee | 4,632.04 | ..... | 7,281.06 |
| Kay Oil Co., Blackwell | 27,355.83 | ..... | 44,292.87 |
| *Kirschner, Sarah, Muskogee | ..... | ..... | 2,430.28 |
| *Klein, Nettie, New York, N. Y. | ..... | ..... | 33,317.91 |
| Kingwood Oil Co., Okmulgee | 93,812.71 | 108,650 | 153,306.21 |
| *King Royalty Co., Wichita Falls | 6,396.25 | ..... | 8,322.42 |
| *Krebs, W. B., Duncan | ..... | ..... | 5,198.53 |
| *Korff, F. H., & Co., Inc., New York, N. Y. | ..... | ..... | 5,190.22 |
| *Kanner, Mack, New York, N. Y. | ..... | ..... | 27,418.66 |
| *Kimmell, J. D., Tulsa | ..... | ..... | 2,491.57 |
| *Kays, W. O., Shawnee | ..... | ..... | 2,654.53 |
| Kay County Gas Co., Ponca City | ..... | 412,465 | 43,410.87 |
| *Knappenberger, Frank, Seminole | ..... | ..... | 3,787.04 |
| Knappenberger, D. L., Tulsa | 4,175.29 | ..... | 5,979.02 |
| *Kennedy, Emma B., trustee, Okemah | ..... | ..... | 10,618.34 |
| *Kershaw, L. H., Muskogee | 3,224.49 | ..... | 5,034.87 |
| Keener Oil & Gas, Tulsa | 44,145.08 | 4,636 | 53,848.08 |
| *Keener Oil & Gas, Tulsa | 1,303.30 | 3,968 | 1,962.81 |
| Kewanee Oil & Gas, Tulsa, Pa. | 414,707.75 | 807,597 | 705,208.78 |
| *Keck, L., Nacona, Tex. | ..... | ..... | 3,216.91 |
| *Kiabzuba, J. J., & George R. Sutton, Prague | ..... | ..... | 2,838.85 |
| *Knotts, Sarah J., Stillwater | ..... | ..... | 6,455.92 |
| Kreola Oil Co., Ardmore | 11,391.05 | ..... | 7,166.19 |
| *Kisner Royalty Co., Garber | ..... | ..... | 2,494.26 |

(Continued on Page 108)

QUALITY QUAN

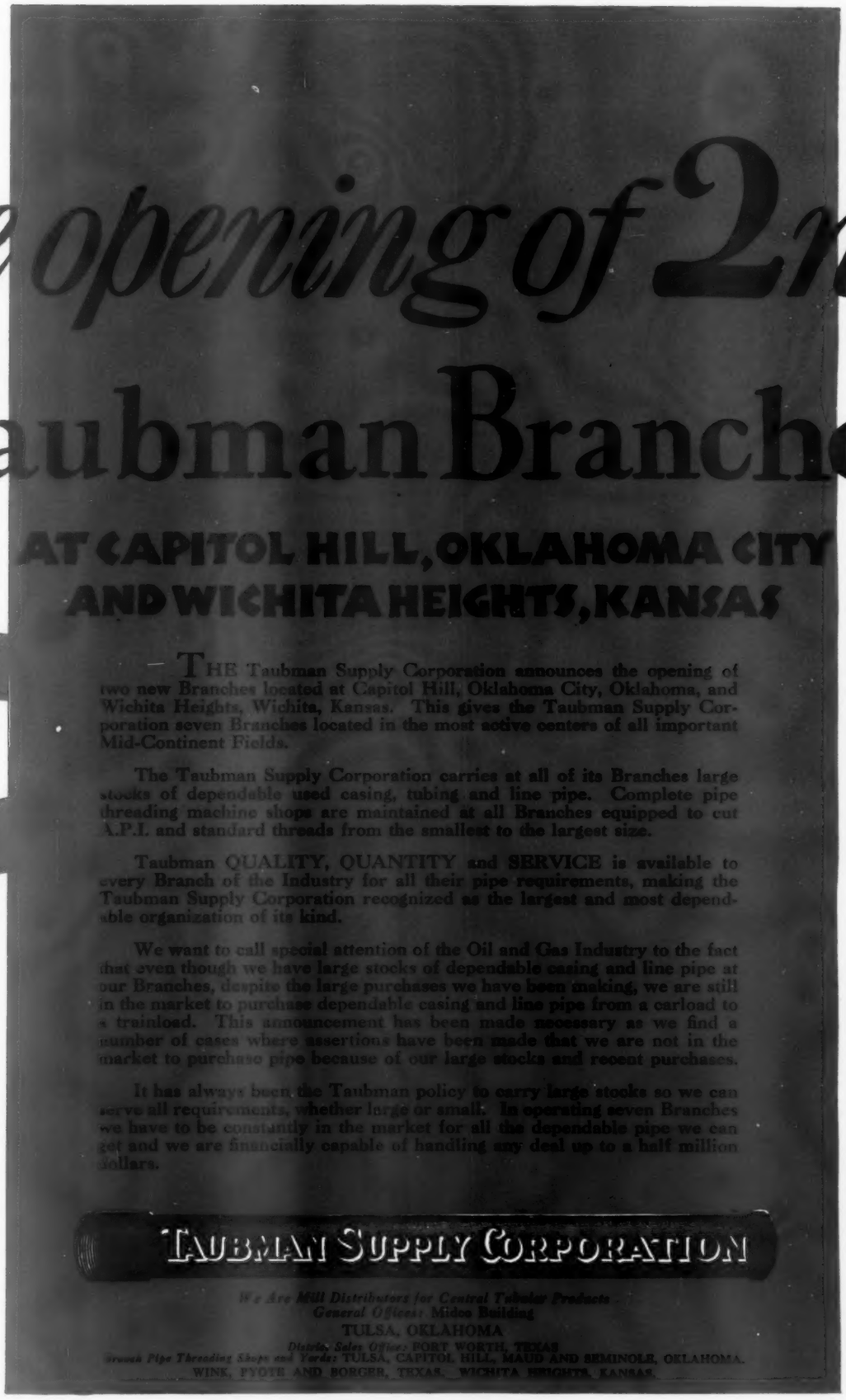
Announcing t

7 BRANCHES LOCATED FOR SERVICE


KANSAS
BORGER
Largest and most dependable stock of used casing and line pipe in the Panhandle District with latest type pipe threading machines ranging in sizes from 1" to 20" inclusive. Day and Night Expert Service.
TULSA
Largest and best equipped pipe yard in the Mid-Continent.
WICHITA HEIGHTS
Largest and most dependable stock of used casing and line pipe ever carried in the State of Kansas.
OKLAHOMA
MAUD
Large and complete stock of dependable used casing and line pipe and latest type Pipe Threading Machines ranging in size from 1" to 12½" inclusive. Day and Night Expert Service.
OKLAHOMA CITY
Large stock of dependable used casing and line pipe and modern pipe machine shop under construction. Will be equipped with latest type pipe threading machines ranging in sizes from 1" to 18" inclusive.
SEMINOLE
Largest and most dependable stock of used casing and line pipe in State of Oklahoma and latest type Pipe Threading Machines ranging in sizes from 1" to 12½" inclusive. Day and Night Expert Service.
TEXAS
WINK
Largest and most dependable stock of used casing and line pipe in the State of Texas and latest type Pipe Threading machines ranging in sizes from 1" to 20" inclusive. Day and Night Expert Service.

TAUBMAN SUPPL

NITY SERVICE

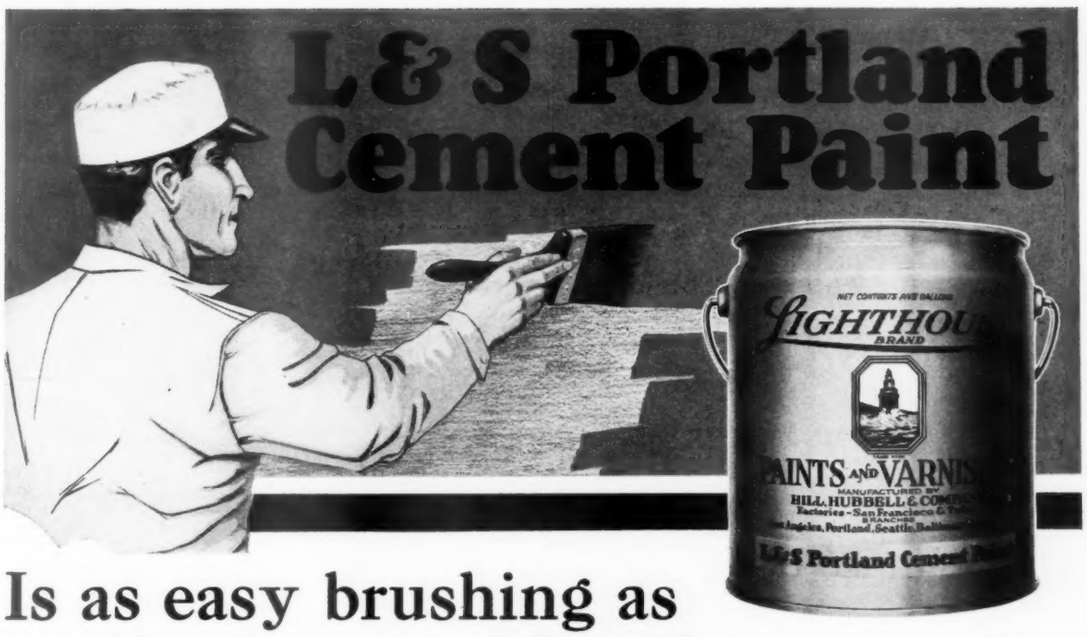

the opening of 2 new
Taubman Branches
AT CAPITOL HILL, OKLAHOMA CITY
AND WICHITA HEIGHTS, KANSAS
THE Taubman Supply Corporation announces the opening of two new Branches located at Capitol Hill, Oklahoma City, Oklahoma, and Wichita Heights, Wichita, Kansas. This gives the Taubman Supply Corporation seven Branches located in the most active centers of all important Mid-Continent Fields.
The Taubman Supply Corporation carries at all of its Branches large stocks of dependable used casing, tubing and line pipe. Complete pipe threading machine shops are maintained at all Branches equipped to cut A.P.I. and standard threads from the smallest to the largest size.
Taubman QUALITY, QUANTITY and SERVICE is available to every Branch of the Industry for all their pipe requirements, making the Taubman Supply Corporation recognized as the largest and most dependable organization of its kind.
We want to call special attention of the Oil and Gas Industry to the fact that even though we have large stocks of dependable casing and line pipe at our Branches, despite the large purchases we have been making, we are still in the market to purchase dependable casing and line pipe from a carload to a trainload. This announcement has been made necessary as we find a number of cases where assertions have been made that we are not in the market to purchase pipe because of our large stocks and recent purchases.
It has always been the Taubman policy to carry large stocks so we can serve all requirements, whether large or small. In operating seven Branches we have to be constantly in the market for all the dependable pipe we can get and we are financially capable of handling any deal up to a half million dollars.
TAUBMAN SUPPLY CORPORATION
We Are Mill Distributors for Central Tubular Products
General Offices: Midco Building
TULSA, OKLAHOMA
District Sales Offices: FORT WORTH, TEXAS
Branch Pipe Threading Shops and Yards: TULSA, CAPITOL HILL, MAUD AND SEMINOLE, OKLAHOMA.
WINK, FYOTE AND BORGER, TEXAS. WICHITA HEIGHTS, KANSAS

IY CORPORATION

| Name and address— | No. of bbls. | M. ft. gas | Amount |
|---|---|---|---|
| Kicola-Colcord & Commerce, Ardmore | 9,177.92 | ..... | 9,757.21 |
| Kingwood Oil Co., Okmulgee | 93,812.71 | 108,650 | 155,306.21 |
| King Royalty Co., Wichita Falls, Tex. | 6,396.25 | ..... | 8,522.42 |
| *Kimble, C. C., Beggs | ..... | ..... | 6,381.17 |
| Kirk Oil Co., Ardmore | 5,691.31 | 20,477 | 7,174.65 |
| Kistler, W. L., Inc., Tulsa | 4,094.35 | ..... | 8,038.54 |
| *Keyokla Oil Co., Oklahoma City | ..... | ..... | 3,355.17 |
| *King, Helen Walker, Orange, Calif. | ..... | ..... | 26,162.69 |
| *King, Helen Walker, guardian, Orange, Calif. | ..... | ..... | 8,048.61 |
| *Kingwood Oil Co., Okmulgee | 2,020.83 | ..... | 4,512.35 |
| *Kisner, R. R., Enid | ..... | ..... | 2,394.34 |
| *Kisner, Minnie L., Enid | ..... | ..... | 2,394.34 |
| King, Tom, Okmulgee | ..... | ..... | 5,434.51 |
| Kirkland, John L., & Son, Tulsa | 4,935.42 | ..... | 5,769.14 |
| Knox, Charles E., Enid | 1,028.35 | 3,006 | 2,165.92 |
| Knox, Charles E., Enid | 5,061.37 | 8,310 | 10,320.67 |
| **L** | | | |
| Laselle, T. E., Ada | 13,109.14 | ..... | 18,453.60 |
| Lambert, C. K., et al, Okmulgee | 9,446.58 | ..... | 15,227.16 |
| *Laughlin, R. W., Wewoka | ..... | ..... | 13,527.52 |
| *Lahman, John, Altus | ..... | ..... | 5,456.36 |
| Lawton Corp., Oklahoma City | ..... | ..... | 6,643.18 |
| Lebow, C. H., Tulsa | 11,157.17 | ..... | 17,945.29 |
| *Lebow, C. H., Tulsa | 2,158.31 | ..... | 3,073.61 |
| *Lewis, A. W., Harlan, Iowa | 4,697.37 | ..... | 7,795.03 |
| Lewis Production Co., Pittsburgh, Pa. | 112,593.44 | ..... | 172,944.34 |
| *Longmire, W. M., Oklahoma City | ..... | ..... | 5,072.76 |
| LeFlore County Gas & Electric Co., Poteau | ..... | ..... | 11,113.95 |
| *Lindley, Florence, Sapulpa | ..... | 116,610 | 9,788.56 |
| Lindly, E. L., Alex | ..... | ..... | 5,722.10 |
| Little Nick Oil Co., Chickasha | ..... | ..... | 25,712.67 |
| *Linn, Nites, Oklahoma City | ..... | ..... | 2,327.82 |
| *Linn, J. W., Shawnee | ..... | ..... | 2,327.82 |
| *Linn, Ivan, Oklahoma City | ..... | ..... | 2,327.82 |
| *Liberty Royalties Corp., Tulsa | ..... | ..... | 18,081.29 |
| *Little, T. J., heirs of, Wetumka | ..... | ..... | 2,050.13 |
| *Laughlin, W. T., & Lylus A., Oklahoma City | ..... | ..... | 5,091.66 |
| Little Fay Oil Co. & J. M. Gillette, Tulsa | ..... | ..... | 4,053.05 |
| Little Fay Oil Co., Tulsa | 10,185.56 | ..... | 9,701.70 |
| *Looney, Joseph C., Wewoka | ..... | ..... | 4,640.84 |
| Lima Oil & Gas Co., Bartlesville | ..... | 469,283 | 38,347.20 |
| *LaForce & Ferguson, Limon, Colo. | ..... | ..... | 5,253.97 |
| Levy, I. B., trustee, Oklahoma City | 3,095.17 | ..... | 5,031.81 |
| *Lack, D. B., Co., Wewoka | ..... | ..... | 15,097.39 |
| *Lack, D. B., Co., Wewoka | ..... | ..... | 4,632.25 |
| *Lack, Matyse B., and D. B., Wewoka | ..... | ..... | 18,649.40 |
| Link Oil Co., Tulsa | 17,185.69 | ..... | 21,379.79 |
| Link Oil Co., Tulsa | ..... | 14,650 | 619.57 |
| *Laughlin, Nancy J., Cushing | ..... | ..... | 2,677.02 |
| Large Oil Co., Bartlesville | 3,897.19 | ..... | 5,660.80 |
| Lone Eagle Oil & Gas, Duncan | 4,379.44 | ..... | 6,391.81 |
| Lambert, C. K., & J. S. Spicer | 9,446.58 | ..... | 15,227.16 |
| *Livingston, W. S., & Amy, Seminole | ..... | ..... | 6,605.30 |
| Laurel Oil & Gas, Tulsa | 98,458.62 | 45,535 | 149,312.93 |
| *Little, T. J., heirs, Wetumka | ..... | ..... | 2,050.13 |
| Ludey, Patty Espence, Marietta, Ohio | 4,784.59 | ..... | 5,925.42 |
| *Lamberton, Park B., Tulsa | 1,366.89 | ..... | 2,159.93 |
| *Laughlin, W. T., & Lyles A., Oklahoma City | ..... | ..... | 5,091.66 |
| Lone Star Gas Co., Dallas, Tex. | 16,261.22 | 62,855 | 16,670.45 |
| Landon, A. M., Independence, Kans. | ..... | ..... | 9,108.13 |
| Love, L. H., Ardmore | 2,820.60 | 28,351 | 5,468.89 |
| Lilami Oil Corp., Oklahoma City | 13,772.26 | ..... | 16,219.04 |
| Louisiana Oil Refining Co., Shreveport, La. | 110,110.62 | ..... | 113,815.99 |
| **M** | | | |
| Mid-Continent Petroleum Corp., Tulsa | 1,473,696.38 | ..... | 2,126,956.47 |
| *Mid-Continent Petroleum Corp., Tulsa | ..... | ..... | 7,731.03 |
| *Mid-Continent Petroleum Corp., Tulsa | ..... | Gas | 514.30 |
| Midco Oil Corp., Tulsa | 16,031.60 | ..... | 25,286.82 |
| Malernee Oil Co., Oklahoma City | 5,805.00 | 214 | 8,937.66 |
| Mid-Kansas Oil & Gas, Findlay, Ohio | 464,274.96 | ..... | 706,503.64 |
| Mid-Kansas Oil & Gas, Findlay, Ohio | ..... | 251,685 | 20,446.92 |
| Marland Production Co., Ponca City | 384,765.35 | 1,316,255 | 682,043.36 |
| Magnolia Petroleum Corp., Dallas, Tex. | 4,727,464.35 | ..... | 6,676,423.76 |
| Magnolia Petroleum Corp., Dallas, Tex. | ..... | Gas | 280,236.26 |
| Magnolia Petroleum Corp., Dallas, Tex. (protest) | 41,588.25 | 34,121 | 68,734.13 |
| *Magnolia Petroleum Corp., Dallas, Tex. | 53,119.13 | ..... | 84,001.84 |
| *Magnolia Petroleum Corp., Dallas, Tex. | ..... | ..... | 9,819.31 |
| Magnolia Petroleum Co., Dallas, Tex. | 2,994.59 | 5,834 | 5,305.89 |
| Magnolia Petroleum Corp., Dallas, Tex. (suspense) | ..... | ..... | 123,040.66 |
| *Magnolia Petroleum Corp., Dallas, Tex. | ..... | ..... | 2,721.16 |
| *Meyer, Annie, Sapulpa | ..... | ..... | 2,787.19 |
| Mul-Berry Oil Co., Cushing | ..... | ..... | 64,663.03 |
| Murphy Oil Co. of Pennsylvania, Philadelphia, Pa. | 6,246.13 | ..... | 7,313.36 |
| Mayes, E. L., Tulsa | ..... | ..... | 84,964.03 |
| Mooers, Clifford, trustee, Wichita Falls, Tex. | 4,656.04 | ..... | 6,298.77 |
| Morgan, Dudley O., Tulsa | ..... | ..... | 24,369.49 |
| *Morgan, Dudley O., Tulsa | ..... | ..... | 2,504.41 |
| McGraw Oil Co., Tulsa | 20,668.52 | ..... | 27,853.97 |
| *McMahon, C. L., & C. L. McMahon, Inc., Tulsa | 8,312.16 | ..... | 13,832.46 |
| McMahon, C. L., & C. L. McMahon, Inc., Tulsa | 24,994.45 | ..... | 42,547.64 |
| *McClure, Carrie L., McAlester | ..... | ..... | 6,596.37 |
| *McGee, H. G., Paulo Valley | ..... | ..... | 2,614.82 |
| *McBride, W. C., Inc., St. Louis, Mo. | ..... | ..... | 27,961.43 |
| McGinley-Sigler Co., Fort Worth, Tex. | 8,103.34 | ..... | 5,429.22 |
| McQueen, I. R., Oklahoma City | 5,983.39 | ..... | 9,275.66 |
| *McQueen, I. R., Oklahoma City | ..... | ..... | 2,543.40 |
| *McDaniel, W. F., Blackwell | ..... | ..... | 2,798.12 |
| Merrick, F. W., Inc., Ardmore | ..... | ..... | 23,302.76 |
| Margay Oil Corp., Tulsa | 104,640.85 | ..... | 153,585.96 |
| *Maxey, J. R., Oklahoma City | ..... | ..... | 3,155.11 |
| Medlin, T. W., Duncan | ..... | ..... | 9,267.63 |
| *Midland Petroleum Corp., Wewoka | ..... | ..... | 4,430.94 |
| *Mid-Continent Royalties, Inc., New York, N. Y. | ..... | ..... | 2,044.31 |
| Mid-Continent Petroleum Corp., Tulsa | 6,588.99 | ..... | 9,553.68 |
| *Mid-Continent Petroleum Corp., Tulsa | ..... | Gas | 87,458.41 |
| Misener, F. D., Tulsa | 8,668.20 | ..... | 10,574.54 |
| Mudge Oil Co., Pittsburgh, Pa. | 19,135.41 | ..... | 14,443.06 |
| Mullendore, E. C., Cleveland | ..... | ..... | 26,069.40 |
| *Mullendore, E. C., Cleveland | ..... | ..... | 4,011.79 |
| Mullendore, Jennie, Cleveland | ..... | ..... | 12,393.30 |
| *Myers, Alice Clark, Santa Fe, N. Mex. | ..... | ..... | 4,859.30 |
| *Major Oil Co., Okmulgee | ..... | ..... | 18,510.53 |
| *Moore, Dudley W., trustee, Tulsa | ..... | ..... | 2,224.29 |
| Moore, Clint, estate, Tulsa | ..... | ..... | 36,931.50 |
| *Melton, B. F., Duncan | ..... | ..... | 4,160.69 |
| Madden & Madden, Tulsa | 34,152.12 | ..... | 48,738.97 |
| *Monarch Royalty Corp., Kansas City, Mo. | ..... | ..... | 53,079.25 |
| Meridian Gas Co., Dallas, Tex. | ..... | 216,908 | 18,069.64 |
| Miller, Frank M., trustee for Warren Royalties, Inc. | 88,471.86 | ..... | 12,954.25 |
| *Miller, Bluford, Okmulgee | ..... | ..... | 14,786.28 |
| Metzger, W. J., & J. R. Fultz | 4,932.00 | 1,283 | 7,043.93 |
| *McAlester, Mary B., McAlester | ..... | ..... | 6,596.37 |
| Maland Employees Royalty Co., Ponca City | 80,584.81 | ..... | 125,363.76 |
| Marileen Oil & Gas, Blackwell | 8,126.94 | 954 | 12,722.38 |
| Marton & Co., Tulsa | 2,094.25 | ..... | 3,686.16 |
| Markham, J. H., Jr., Tulsa | 147,399.70 | ..... | 221,207.34 |
| *Markham, J. H., Jr., Tulsa | 2,324.43 | ..... | 3,706.05 |
| Mason, D. B., Tulsa | ..... | ..... | 14,047.77 |
| *Martin, A. J., & F. T. Miller, Okemah | ..... | ..... | 2,907.75 |
| *Martin, J. L., Marlow | ..... | ..... | 2,244.41 |
| *Mainard, M. F., Jr., Wewoka | ..... | ..... | 2,169.27 |
| Magee & Stipe, Electra, Tex. | 4,385.41 | ..... | 6,383.55 |
| Magnuette Oil Co., Tulsa | 14,001.10 | 152,732 | 32,765.00 |
| McMan Oil & Gas, Tulsa | 52,742.57 | ..... | 82,055.57 |
| *McMahon Royalties Co., San Antonio, Tex. | 2,889.11 | 80,256 | 4,536.12 |
| *MacDonough, J. M., New York, N. Y. | ..... | ..... | 3,195.61 |
| *McNamara, Alice, Seminole | ..... | ..... | 2,241.02 |
| *McNamara, L. J., Seminole | ..... | ..... | 3,724.44 |
| *McDougal, W. A., Sapulpa | ..... | ..... | 2,110.98 |
| *McCully, Charles, Hennessy | ..... | ..... | 2,268.82 |
| Lesh & McCall et al, Nocona, Tex. | 21,137.41 | ..... | 16,064.42 |
| *McGee, Nellie, Asher | ..... | ..... | 2,721.36 |
| *McGee, R. L., Asher | ..... | ..... | 36,415.75 |
| *McKee, S. H., Tonkawa | ..... | ..... | 6,468.42 |
| *McGee, J. N., Tecumseh | ..... | ..... | 2,725.03 |
| McMahan, R. M., trustee, Tulsa | 4,602.50 | 27,268 | 8,036.98 |
| *Million & Thomas, McAlester | ..... | ..... | 4,663.37 |
| *Morris, H. E., Ada | 1,881.51 | ..... | 2,192.64 |
| *Moore, J. Read, Wewoka | ..... | ..... | 8,721.43 |

| Name and address— | No. of bbls. | M. ft. gas | Amount |
|---|---|---|---|
| *Moore, Sy, Guthrie | ..... | ..... | 2,447.36 |
| Minnehoma Oil Co., Tulsa | 69,159.92 | 142,622 | 115,576.42 |
| Minshall, E. R., Tulsa | 3,685.23 | 3,684 | 5,732.88 |
| *Miller Brothers 101 Ranch, Trust, Ponca City | ..... | ..... | 9,187.21 |
| Meridian Gas Co., Dallas, Tex. | ..... | 216,908 | 18,069.64 |
| Merrick, F. W., & R. W. Coe, trustee, Ardmore | 11,549.03 | ..... | 14,000.22 |
| *Metcalf, R. J., Fort Worth, Tex. | ..... | ..... | 3,049.24 |
| Metzger, W. J., & J. R. Fultz | 7,093.76 | ..... | 13,995.39 |
| Murphy, J. F., Sapulpa | ..... | ..... | 12,323.01 |
| *Mussellem, Sophia S., Muskogee | 3,548.04 | ..... | 5,988.20 |
| *McGee, Jodie, Norman | ..... | ..... | 5,453.76 |
| *McCaughtry, Floyd, Chickasha | ..... | ..... | 3,063.12 |
| *McDonough, W. W., Wewoka | ..... | ..... | 7,617.35 |
| McDonough, W. W., Wewoka | ..... | ..... | 4,680.43 |
| *MacDonough, J. M., New York, N. Y. | ..... | ..... | 3,195.61 |
| *McRoberts Royalty Co. | ..... | ..... | 6,738.98 |
| **N** | | | |
| *Neal, Beulah, Wanette | ..... | ..... | 2,707.95 |
| *North Central Texas Oil Co., Inc., New York City | ..... | ..... | 3,730.74 |
| National Oil & Dev. Co., Tulsa | 8,088.04 | ..... | 9,581.71 |
| New England Oil & Pipe Line Co., Boston, Mass. | 86,273.96 | ..... | 124,219.93 |
| Naifeh, Sam, and Charles W. West, Sapulpa | 17,628.25 | ..... | 21,751.42 |
| *Nichols, Marjorie C., Chickasha | ..... | ..... | 2,237.70 |
| Nichols, Marjorie C., Chickasha | ..... | ..... | 3,330.61 |
| *Nichols, G. A., Oklahoma City | ..... | ..... | 3,345.53 |
| *New York Petroleum Royalty Corp, New York, N. Y. | 11,700.40 | ..... | 18,380.32 |
| National Refining Co., Cleveland, Ohio | 7,209.80 | 17,890 | 13,167.37 |
| National Union Oil & Gas, Blackwell | 3,983.25 | ..... | 6,875.49 |
| *National Union Oil & Gas, Blackwell | ..... | ..... | 2,681.45 |
| *Nelson, R. L., Webb City | ..... | ..... | 5,686.62 |
| *Nester Oil Co., Alex | 2,459.84 | ..... | 3,224.31 |
| Norris, W. C., Tulsa | ..... | ..... | 11,962.27 |
| *North, R. B., Blackwell | ..... | ..... | 2,252.59 |
| Neustadt, Walter, Ardmore | ..... | ..... | 5,370.57 |
| Nelson, F. M., New York, N. Y. | 4,535.53 | ..... | 5,714.70 |
| *Noble, Hattie E., Ardmore | ..... | ..... | 3,304.24 |
| *Noble, Eva E., Ardmore | ..... | ..... | 4,405.65 |
| Noble Oil & Gas, Tulsa | 3,022.15 | 10,199 | 4,375.67 |
| *Norvell, A. S., Wewoka | ..... | ..... | 3,627.31 |
| *Norvell, Ruby P., Wewoka | ..... | ..... | 2,419.54 |
| *Norvell, Spencer, Wewoka | ..... | ..... | 2,348.72 |
| Norwood Oil Co., Tulsa | 8,037.75 | ..... | 9,978.66 |
| **O** | | | |
| Ohio Fuel Supply Co., Columbus, Ohio | 24,251.40 | ..... | 36,128.54 |
| *Ohio Fuel Oil Co., Charleston, W. Va. | 23,229.01 | ..... | 35,192.41 |
| Oil State Petroleum Co., Enid | 5,164.54 | ..... | 9,341.49 |
| *Ohio State Petroleum Co., Enid | 6,313.47 | ..... | 9,727.52 |
| *Ogg, Kitty L., Muskogee | 2,142.84 | ..... | 4,412.19 |
| Ogg Petroleum Co., Muskogee | 5,360.71 | ..... | 7,492.59 |
| *Oil & Gas Royalties, Inc., Toronto, Canada | ..... | ..... | 2,611.80 |
| *Osborn, W. B., Ada | ..... | ..... | 5,452.92 |
| Osborn, W. B., and estate of Jim Fleet et al, Ada | ..... | ..... | 2,122.89 |
| *Orit Security Corp., New York City | ..... | ..... | 5,806.41 |
| Ohio-Osage Oil Co., Hominy | ..... | ..... | 17,462.26 |
| Oklahoma Natural Gas Corp., Tulsa | ..... | 949,935 | 39,961.61 |
| Oklahoma Public Service Corp., Oklahoma City | 9,172.77 | ..... | 19,925.14 |
| Oklahoma Gas Utilities Co., Chickasha | ..... | ..... | 54,374.82 |
| *Oklahoma Gulf Royalty Corp., Tulsa | ..... | ..... | 3,884.66 |
| *Oklahoma Royalty Co. of Canada, Toronto, Canada | ..... | ..... | 130,532.46 |
| Oklahoma Power & Water Co., Sand Springs | ..... | 165,467 | 16,546.78 |
| Olean Petroleum Co., Bristow | 4,383.50 | 91,384 | 17,404.00 |
| O'Rourke Oil Co., Bristow | ..... | ..... | 12,196.56 |
| Osage Development Co., Bartlesville | 4,348.99 | ..... | 5,381.78 |
| Osage Gas Prod. Co., Independence, Kans. | 368.14 | 587,598 | 53,344.97 |
| *Ozark Oil Co., Tulsa | ..... | ..... | 6,637.75 |
| *O'Dell, Mrs. Ollie B., Richmond, Calif. | ..... | ..... | 12,988.21 |
| Ona Oil Co., Blackwell | ..... | ..... | 50,295.79 |
| Orwig, S. S., Wewoka | ..... | ..... | 37,500.62 |
| *Orwig, S. S., Wewoka | ..... | ..... | 32,644.90 |
| *Owen, M. S., Cushing | ..... | ..... | 9,693.51 |
| **P** | | | |
| *Provident Royalty Co., Tulsa | ..... | ..... | 3,509.21 |
| *Provident Royalty Co., Tulsa | 25,098.41 | ..... | 38,983.79 |
| *Palmer, S. T., Okemah | ..... | ..... | 7,684.04 |
| Privett Drilling Co., Maramec | 2,710.87 | ..... | 8,513.10 |
| *Patton, B. G., Okmulgee | 2,721.33 | ..... | 4,297.40 |
| *Priboth, F. F., Blackwell | 2,035.81 | ..... | 3,515.78 |
| *Priboth, Lillie M., Blackwell | 2,036.37 | ..... | 3,551.97 |
| Pace, George L., and Keystone Prod. Co., Wichita Falls, Tex. | 34,010.19 | ..... | 50,494.85 |
| Producers & Refiners Corp., Independence, Kans. | 152,533.25 | ..... | 153,773.31 |
| Producers & Refiners Corp., Independence, Kans. | ..... | Gas | 15,357.00 |
| *Pepper Oil & Gas Co., Oklahoma City | ..... | ..... | 21,316.09 |
| *Peerless Oil & Gas Co., Indiana, Pa. | 11,823.15 | ..... | 19,914.12 |
| *Petroleum Rights Corp., New York, N. Y. | ..... | ..... | 11,225.99 |
| Pierce Petroleum Corp., Sand Springs | 16,515.50 | ..... | 20,791.11 |
| Pierce Petroleum Corp., Sand Springs | ..... | Gas | 3,499.77 |
| Pine, W. B., Okmulgee | 23,459.71 | ..... | 32,035.32 |
| Pine, W. B., Okmulgee | ..... | 76,517 | 6,244.47 |
| Pine, W. B., Okmulgee | 95,581.12 | ..... | 145,710.04 |
| Pine, W. B., and Phillips Petroleum Co., Okmulgee | 27,326.32 | ..... | 43,502.86 |
| Producers Oil Co., Tulsa | 19,351.62 | ..... | 29,782.49 |
| Petroleum Co. and M. H. Mosier, Tulsa | 9,938.13 | 11,229 | 13,950.70 |
| Petroleum Co., Tulsa | 4,723.23 | 5,330 | 6,685.50 |
| *Petroleum Royalties Co., Tulsa | ..... | ..... | 135,666.63 |
| Pure Oil Co., Chicago, Ill. | 1,915,529.07 | ..... | 3,007,961.18 |
| Pure Oil Co., Chicago, Ill. (gasoline division) | ..... | 607,865 | 55,559.00 |
| Pure Oil Co., Chicago, Ill. (suspense) | ..... | ..... | 2,782.71 |
| Pure Oil Co., Chicago, Ill. | ..... | 449,779 | 37,849.87 |
| Pawnee Oil Producing Co., Tulsa | 4,315.27 | ..... | 6,295.58 |
| Paragon Oil Co., Tulsa | 5,197.25 | 3,275 | 8,197.28 |
| Panther Oil Co., Oklahoma City | 5,114.88 | ..... | 20,932.75 |
| Papoose Oil Co., Tulsa | 4,221.00 | 5,922 | 7,764.47 |
| Papoose Oil Co., Tulsa | 29,125.06 | 65,356 | 51,019.51 |
| *Panner, E. N., Shawnee | ..... | ..... | 3,697.01 |
| Panos, John, Wewoka | ..... | ..... | 11,201.37 |
| *Panos, John, Wewoka | ..... | ..... | 2,993.40 |
| Page, Charles, trustee, Tulsa | 3,579.01 | ..... | 5,589.75 |
| *Payne, Grover, Okmulgee | ..... | ..... | 3,857.74 |
| Paraffine Oil Co., Houston, Tex. | 8,540.46 | ..... | 10,394.47 |
| *Pioneer Trust Co., Kansas City, Mo. | ..... | ..... | 2,358.27 |
| Plains Petroleum Co., Tulsa | 12,597.25 | 17,358 | 19,830.01 |
| *Powers, M. F., Tulsa | 8,209.00 | ..... | 12,540.75 |
| *Phillips, Waite, Tulsa | 2,276.85 | ..... | 3,716.35 |
| *Pryor, W. W., Holdenville | 1,230.95 | ..... | 2,610.21 |
| *Price, N. J., and Alpha, Okemah | ..... | ..... | 5,046.69 |
| *Pharoah, O. J., Henryetta | ..... | ..... | 11,345.37 |
| Plymouth Petroleum Corp., Tulsa | 5,473.86 | ..... | 7,676.29 |
| Plymouth Petroleum Corp., Tulsa | 4,143.03 | ..... | 5,956.78 |
| Pugh, M. W., Marlow | 5,853.47 | ..... | 7,673.73 |
| Pyramid Oil Co., Winchester, Ky. | 6,109.95 | ..... | 7,384.37 |
| *Perkins, J. E., Kansas City, Mo. | ..... | ..... | 2,650.64 |
| Pennok Oil Co., Tulsa | 32,085.59 | 45,784 | 56,239.99 |
| Perkins and Cullum, Wichita Falls, Tex. | 8,556.34 | ..... | 11,594.47 |
| *Perpetual Royalty Income Co., Rock Island, Ill. | 1,979.32 | ..... | 2,392.61 |
| *Perpetual Royalty Corp., St. Louis, Mo. | ..... | ..... | 16,745.65 |
| Prairie Oil & Gas Co., trustee, Independence, Kans. | 3,005.68 | ..... | 3,852.34 |
| Prairie Oil & Gas Co., Independence, Kans. | 3,849,639.68 | ..... | 5,798,576.78 |
| Prairie Oil & Gas Co., Independence, Kans | ..... | 3,220,137CH | 353,545.64 |
| Prairie Oil & Gas Co., Independence, Kans. | ..... | 615,417 | 47,443.19 |
| Petroleum Producers Co., Wichita Falls | 16,952.52 | ..... | 25,478.60 |
| Phoenix Oil Co., Pittsburgh, Pa. | 12,500.14 | ..... | 19,575.77 |
| *Patterson, J. A., Wewoka | ..... | ..... | 4,570.24 |
| Pauline Oil & Gas Co., Oklahoma City | 7,528.58 | ..... | 10,792.97 |
| Pawhuska Oil & Gas Co., Pawhuska | ..... | 50,917 | 7,565.28 |
| *Pfile, Charles, Oklahoma City | ..... | ..... | 2,037.96 |
| Pioneer Petroleum Co., Tulsa | 12,635.94 | ..... | 15,251.29 |
| *Priddy, W. D., Norman | ..... | ..... | 4,891.75 |
| *Powell, G. K., Muskogee | ..... | ..... | 2,188.49 |
| *Probst, George C., Tulsa | ..... | ..... | 19,443.87 |
| Phillips, W. G., and J. B. Milam, Chelsea | 28,448.96 | 1,376 | 36,043.22 |
| Phillips Petroleum Co., Bartlesville | ..... | ..... | 123,015.09 |
| Phillips Petroleum Co., Bartlesville | 850,500.48 | ..... | 1,226,185.65 |
| **Q** | | | |
| *Quinlan, C. P., Tulsa | 9,667.22 | 39,829 | 14,575.77 |
| *Quinlan, C. P., Tulsa | 3,421.40 | ..... | 4,183.77 |
| *Quimby, John, Montebello, Calif. | 4,504.34 | ..... | 7,370.29 |
| Quinton Relief Oil & Gas Co., Quinton | ..... | ..... | 12,490.00 |

(Continued on Page 110)

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| Name and address— | No. of bbls. | M. ft. gas | Amount |
|---|---|---|---|
| Quinton Relief Oil & Gas Co., Quinton | ..... | 150,119 | 9,007.18 |
| Quinton Spelter Co., Quinton | ..... | ..... | 8,318.00 |
| Quinton Spelter Co., Quinton | ..... | Gas | 10,376.00 |
| Quinton Spelter Co., Quinton | ..... | Gas | 11,051.12 |
| **R** | | | |
| *Rainey, John W., Shawnee | ..... | ..... | 32,138.46 |
| *Ray Oil Co., Alex | 1,902.77 | ..... | 2,536.69 |
| Red Bank Oil Co., Tulsa | 8,811.94 | ..... | 12,211.97 |
| Reed and Harmon, Nowata | ..... | ..... | 7,621.99 |
| *Rexroat, U. T., guardian, Ardmore | ..... | ..... | 5,977.56 |
| Reserve Petroleum Co., Tulsa | 21,153.43 | ..... | 30,699.37 |
| Reserve Petroleum Co., Tulsa | 8,919.12 | ..... | 13,769.54 |
| Reliance Oil Co. of Oklahoma, Houston, Tex. | 4,362.71 | ..... | 8,798.16 |
| Reiter-Foster Oil Corp., Tulsa | 246,533.21 | ..... | 396,684.05 |
| *Reiter-Foster Oil Corp., Tulsa | 9,700.18 | ..... | 15,349.91 |
| *Reeser, Edwin I., Inc., Tulsa | ..... | ..... | 6,571.95 |
| *Reed, Isabella S., Neosho, Mo. | 18,257.78 | ..... | 31,491.47 |
| *Reed, Frank H., Neosho, Mo. | ..... | ..... | 35,401.64 |
| *Reed, Frank H. and Isabella, Neosho, Mo. | 51,985.39 | ..... | 78,505.56 |
| Regal Oil & Gas Co., Tulsa | 12,717.36 | 4,973 | 16,147.72 |
| Rex Oil & Gas Co., Winchester, Ky. | 6,102.95 | ..... | 7,354.33 |
| Reynolds Oil & Royalty Co., Okmulgee | 8,503.22 | ..... | 13,321.92 |
| *Reynolds Oil & Royalty Co., Okmulgee | 4,602.96 | ..... | 7,117.76 |
| Rockland Oil Co., Ardmore | 29,432.59 | ..... | 32,223.57 |
| *Rogers, Calloway, Earlsboro | ..... | ..... | 5,973.22 |
| *Rogers, Calloway and Rosa, Earlsboro | ..... | ..... | 40,309.41 |
| Ransom Pool, Anthony, N. Mex. | 3,832.23 | ..... | 5,789.23 |
| *Replogle and Johnston, Oklahoma City | ..... | ..... | 5,397.21 |
| *Richardson, Zelta, Tecumseh | ..... | ..... | 2,648.25 |
| Roberts, Thomas C., Ardmore | 4,108.77 | 357 | 6,172.66 |
| Routt, J. S., Okmulgee | 3,270.43 | ..... | 5,141.49 |
| *Regan, L. O., Tecumseh | ..... | ..... | 3,977.92 |
| Robins, J. W., Fort Worth, Tex. | 10,561.05 | ..... | 10,503.90 |
| Riverside Oil & Refining Co., Tulsa | 11,301.35 | ..... | 17,117.24 |
| Riverland Co., Tulsa | 15,054.35 | 10,596 | 23,352.22 |
| *Riverland Co., Tulsa | 2,135.35 | ..... | 3,017.77 |
| *Royalty Investment Syndicate, New York, N. Y. | ..... | ..... | 2,972.27 |
| *Rudell, B. F., Konawa | ..... | ..... | 14,947.40 |
| *Russell, Dora C., Duncan | ..... | ..... | 2,782.67 |
| Ryan Consolidated Petroleum Corp., Tulsa | 6,059.97 | ..... | 8,891.30 |
| *Robinson, E. L., Tulsa | 6,794.56 | ..... | 10,208.40 |
| Robinson, E. L., and Gibson Zahniser Oil Corp., Tulsa | 5,404.59 | 25,424 | 10,460.85 |
| *Richards, C. L., Tulsa | ..... | ..... | 7,247.33 |
| Rickey, L. D., Ardmore | 2,132.13 | ..... | 2,563.90 |
| *Rogers, Leslie, Tulsa | 6,349.17 | 4,357 | 10,421.40 |
| *Rascoe, M. L., Burlingame, Calif. | ..... | ..... | 58,108.07 |
| Rutz, Jake, Oil Co., Morris | ..... | ..... | 8,644.22 |
| Ramsey, W. R. and W. E., Oklahoma City | ..... | ..... | 170,932.03 |
| *Rouse, Scott, Marshall | ..... | ..... | 7,512.50 |
| *Roberts, Horace, Morrestown, N. J. | ..... | ..... | 2,422.22 |
| Riverside Oil & Refining Co., Tulsa | 3,584.48 | ..... | 5,349.53 |
| *Royalty Corp. of America, Tulsa | 86,973.66 | ..... | 133,983.46 |
| *Rentie, Judie, care Texas Company | ..... | ..... | 7,657.52 |
| *Replogle, D., Oklahoma City | ..... | ..... | 4,215.01 |
| *Replogle, Jamie, Oklahoma City | ..... | ..... | 6,420.93 |
| *Radcliffe, D. H., Los Angeles, Calif. | 1,200.95 | ..... | 2,113.45 |
| Rebold, John H., Oil Co., Okmulgee | ..... | ..... | 5,224.09 |
| Rebold, John H., Oil Co., Okmulgee | ..... | ..... | 8,142.60 |
| *Robinson, Philo C., guardian, Los Angeles | ..... | ..... | 8,119.70 |
| Robertson, B. H., Nowata | 3,819.88 | ..... | 5,185.56 |
| *Rookstool, W. A., Norman | ..... | ..... | 3,551.59 |
| Rubana Oil Co., Winfield, Kans. | ..... | 148,511 | 8,982.66 |
| *Ross, George, Marshall | ..... | ..... | 2,028.06 |
| Randall, W. S., Oklahoma City | 5,952.66 | ..... | 5,136.78 |
| *Ralph, B. B., Kansas City, Mo. | ..... | ..... | 5,033.88 |
| *Reis, J. and B., New York, N. Y. | ..... | ..... | 4,120.63 |
| *Rockwell, J. A., Warren, Pa. | 4,852.07 | ..... | 8,066.10 |
| *Rena Royalty Co., Tulsa | ..... | ..... | 15,808.65 |
| *Rena Royalty Co., Tulsa | 4,424.92 | ..... | 7,292.19 |
| **S** | | | |
| Silurian Oil Co., St. Louis, Mo. | 104,524.34 | ..... | 144,441.89 |
| Southwest Producing Co., Bristow | ..... | 199,871 | 15,989.68 |
| *Sammon, W. H., Maud | ..... | ..... | 27,521.80 |
| *Strother, Louise, J. C. Greer, trustee for, Martinsville, Va. | ..... | ..... | 2,212.69 |
| Skelly Oil Co., Tulsa | 925,128.31 | ..... | 1,304,348.05 |
| Skelly Oil Co., Tulsa | ..... | 1,385 | 89,067.78 |
| *Skelly Oil Co., Tulsa | 7,388.85 | ..... | 10,455.97 |
| Selby Oil & Gas Co., Tulsa | 30,734.34 | 17,360 | 40,444.81 |
| *Selby Oil & Gas Co., Tulsa | 2,160.15 | 1,456 | 3,843.75 |
| *Sconwald, Dave and Junia, Blackwell | ..... | ..... | 3,660.15 |
| *Shaw, A. F., Shamrock | ..... | ..... | 2,872.53 |
| *Shaw, B. J., Wichita Falls, Tex. | 1,526.21 | ..... | 2,376.83 |
| Sharp, Robt. C., Tulsa | 5,415.02 | ..... | 8,159.11 |
| Smith, C. R., estate of, Ardmore | 4,245.77 | 37,198 | 8,633.85 |
| Smith, Chas. R., Jr., Ardmore | 7,463.76 | 50,385 | 13,871.66 |
| Smith, Marie S., Ardmore | 9,151.78 | 67,880 | 17,660.18 |
| *Smith, Terry G., San Diego, Calif. | ..... | ..... | 3,036.06 |
| *Smith, N. Bert, Oklahoma City | ..... | ..... | 8,360.78 |
| Stanley, L. G., Pawhuska | ..... | ..... | 6,632.07 |
| *Sparks, Harriet W., Shawnee | 7,350.07 | ..... | 11,458.76 |
| Sands Petroleum Co., Tulsa | 35,885.47 | ..... | 51,941.99 |
| *Soward, Willard and Fred, Stroud | ..... | ..... | 2,524.63 |
| Snedden, Geo. W., Tulsa | 10,171.33 | ..... | 15,249.72 |
| *Shirley, Gracie I., Tulsa | ..... | ..... | 2,903.59 |
| Swindle, James A., Muskogee | 7,164.78 | ..... | 11,621.42 |
| *Spencer, T. J. and Alice, Wewoka | ..... | ..... | 8,123.85 |
| *St. Germain, R. J., Tulsa | ..... | ..... | 3,690.18 |
| *Sharum, Marie A., Ripley | ..... | ..... | 13,082.06 |
| Shertzer Bros., Dewey | 4,949.37 | ..... | 5,467.14 |
| Shareline Oil & Gas, Tulsa | 9,595.35 | ..... | 14,060.14 |
| *Seay, O. W., Ryan | ..... | ..... | 9,960.82 |
| Sterling Oil & Gas, Abilene, Tex. | 10,928.69 | ..... | 14,254.75 |
| San Bois Gas Co., Quinton | ..... | 167,713 | 13,579.27 |
| Savoy Oil Co., Tulsa | 8,362.92 | 6,645 | 10,234.77 |
| *Sarasota Oil Co., Ardmore | 3,802.97 | ..... | 4,162.27 |
| *Scott, Geo. W., Agra | ..... | ..... | 7,339.12 |
| *Schmidt, Harry E., Columbus, Ohio | 6,369.54 | ..... | 10,904.41 |
| Schermerhorn Oil Co., Tulsa | 3,975.78 | 251,693 | 64,042.77 |
| Schermerhorn, Inc., J. B., Minneapolis, Minn. | 67,549.86 | ..... | 84,895.36 |
| *Schermerhorn, Inc., J. B., Minneapolis, Minn. | 3,037.42 | ..... | 3,974.02 |
| Schermerhorn Young Co., Minneapolis, Minn. | 1,530.56 | ..... | 2,185.18 |
| Schermerhorn Ardmore Co., Minneapolis, Minn. | 121,045.50 | 392 | ..... |
| Schermerhorn Ardmore Co., Minneapolis, Minn. | ..... | 43,033CH | 107,469.56 |
| Schermerhorn Oil Co., Tulsa | ..... | ..... | 23,851.57 |
| *Schonwald, Morris, Oklahoma City | ..... | ..... | 2,395.77 |
| *Smith, Earl, Blackwell | ..... | ..... | 3,344.47 |
| *Smith, Steve, Blackwell | ..... | ..... | 3,344.47 |
| Smith Oil Co., Inc., E. L., Mexia, Tex. | 4,924.64 | ..... | 7,350.84 |
| *Smith, Leona, Blackwell | ..... | ..... | 3,344.47 |
| *Smith, Mabel, Celina, Tex. | ..... | ..... | 2,460.37 |
| Snodgrass Oil Co., Frederick | ..... | ..... | 8,721.96 |
| *Snowden, Pearl M., Philadelphia, Pa. | ..... | ..... | 15,114.07 |
| *Sneed Royalty Co., Tulsa | 17,322.27 | ..... | 24,936.05 |
| *Seneca Royalties Co., Oklahoma City | ..... | ..... | 6,846.30 |
| Sturm Drilling Co., Ardmore | 16,636.01 | ..... | 21,581.66 |
| *Seaons, Leigh J., Corp., New York, N. Y. | ..... | ..... | 4,589.34 |
| San Bois Gas Co., Quinton | ..... | ..... | 13,504.00 |
| San Bois Gas Co., Quinton | ..... | ..... | 13,068.66 |
| Simms Oil Co., Dallas, Tex. | 12,181.15 | 1,472 | 19,111.32 |
| *Seay, Clyde and W. D., Oscar | 1,838.00 | ..... | 2,381.08 |
| *Sparks, Harriet W., Earlsboro | ..... | ..... | 5,721.51 |
| *Standridge, John H., Lexington | ..... | ..... | 2,149.47 |
| *Southland Royalty Co., Ponca | 3,747.55 | ..... | 9,004.86 |
| *Sherman, Laura, Tecumseh | ..... | ..... | 2,874.69 |
| *Shepherd, J. D., Shawnee | ..... | ..... | 3,780.85 |
| *Shepherd, W. F., Shawnee | ..... | ..... | 3,341.20 |
| Shepherd, Dan, guardian, Shawnee | ..... | ..... | 16,037.44 |
| Shaner, P. A., Ardmore | 5,869.56 | ..... | 10,459.29 |
| *Sykes, C. E., Ardmore | ..... | ..... | 2,969.91 |
| *Surber, O. B., Chickasha | ..... | ..... | 2,506.14 |
| *Spedden, Frederick O., Tuxedo Park, N. Y. | ..... | ..... | 2,719.72 |
| *Swan, F. P., Kenowa | ..... | ..... | 17,042.17 |
| *Slough, E. D., Ardmore | ..... | ..... | 2,775.72 |
| *Shimp, Ira, Blackwell | ..... | ..... | 10,724.56 |
| Sampson Oil Co., Tulsa | ..... | ..... | 6,494.54 |
| Sidwell Drilling Co., Sapulpa | 3,755.86 | ..... | 5,748.12 |
| *Strothers, O. D., J. R. Simpson, agent, estate of, Tulsa | ..... | ..... | 10,192.51 |

| Name and address— | No. of bbls. | M. ft. gas | Amount |
|---|---|---|---|
| *Simpson, Susan A., Tulsa | ..... | ..... | 2,252.00 |
| *Spring, Earl, Ryan | ..... | ..... | 5,940.00 |
| Sheridan Oil Co., Tulsa | 15,781.51 | 16,182 | 22,391.00 |
| Shaffer, C. B., Chicago, Ill. | 48,268.73 | ..... | 49,354.75 |
| Skelton, L. S., estate of, Okmulgee | 1,381.33 | ..... | 6,386.25 |
| *Sturgeon, L. L., Wewoka | ..... | ..... | 5,986.20 |
| *Stuart, Phil N., Shawnee | ..... | ..... | 4,238.25 |
| Sure Oil Corp., Tulsa | 3,952.97 | ..... | 5,419.00 |
| Snowden & McSweeney Co., New York, N. Y. | 128,709.86 | 76,348 | 193,099.79 |
| Sinclair Oil & Gas Co., Tulsa | 3,575,572.87 | ..... | 5,539,681.00 |
| Sinclair Oil & Gas Co., Tulsa | ..... | Gas | 183,244.00 |
| *Sinclair, H. F., New York, N. Y. | ..... | ..... | 10,984.00 |
| Smith, G. J., Tulsa | ..... | ..... | 12,972.00 |
| *Smith, J. A., paid by Shell Petroleum | ..... | ..... | 2,972.00 |
| *Sunray Oil Co., Tulsa | 17,727.19 | ..... | 24,381.00 |
| Skelton Moore Oil Co., Bartlesville | 5,586.12 | ..... | 7,273.00 |
| *Strough, Arlie and Alice, Davenport | ..... | ..... | 3,043.00 |
| *Sparks, L. O., et al, Oklahoma City | ..... | ..... | 26,772.00 |
| *Scott, Mrs. Lucy B., Holdenville | ..... | ..... | 2,316.00 |
| *Shaffer, J. K. D., Oklahoma City | 2,014.95 | 2,373 | 3,097.00 |
| *Simmon, Mrs. Bettie, Oklahoma City | ..... | ..... | 2,177.00 |
| Slick, T. B., Oklahoma City | 555,962.96 | 712,445 | 944,241.00 |
| Slick, Tom, Inc., Oklahoma City | 1,896,461.88 | 964,160 | 3,103,998.00 |
| *Slick, Tom, Inc., Oklahoma City | 16,301.69 | 12,552 | 24,723.00 |
| *Slick, T. B., Clarion, Pa. | 53,907.14 | 1,321 | 88,250.00 |
| *Schaefer, Alwina, Marshall | ..... | ..... | 2,264.00 |
| Shell Petroleum Corp., St. Louis | 1,378,773.45 | ..... | 2,052,197.00 |
| Shell Petroleum Corp., St. Louis | ..... | 1,796,589 | 122,994.00 |
| *Sparks, O. S., Ardmore | 1,887.00 | ..... | 2,433.00 |
| Silurian Oil Co., St. Louis | ..... | Gas | 7,210.00 |
| Simons, G. A., Okmulgee | ..... | ..... | 10,737.00 |
| Simons, J. D., Tulsa | ..... | ..... | 6,387.00 |
| Simms Oil Co., Dallas, Tex. | 12,181.15 | 1,472 | 19,111.32 |
| *Simpson, W. E., St. Louis, Mo. | 3,248.54 | 1,074 | 4,915.00 |
| Simpson, A. O., Ardmore | 3,248.54 | 1,074 | 4,915.00 |
| Simpson-Fell Oil Co., Ardmore | 34,979.06 | ..... | 41,022.00 |
| *Sandford, Edwin, Oklahoma City | ..... | ..... | 2,972.00 |
| Shaffer Oil & Refining Co., Tulsa | 492,115.46 | 445,891 | 822,206.00 |
| *Sun Royalty Co., Tulsa | 23,714.44 | ..... | 36,300.00 |
| Superior Oil Co., Tulsa | 290,718.63 | 598,601 | 462,543.00 |
| Schoenfeld, C. H., and J. H. Markham, Jr., Tulsa | 2,269.98 | ..... | 3,377.00 |
| **T** | | | |
| Transcontinental Oil Co., Tulsa | 106,120.56 | 228,537 | 162,657.00 |
| Twin State Oil Co., Tulsa | 369,772.47 | ..... | 445,504.00 |
| *Twin State Oil Co., Tulsa | 22,776.59 | ..... | 40,466.00 |
| *Tull, Vida M., Yale | ..... | ..... | 17,597.00 |
| *Tully, Martha Nadine (now Andrews), Muskogee | ..... | ..... | 2,903.00 |
| *Tally, T. F., Sulphur | ..... | ..... | 7,065.00 |
| *Treadway, Ella, Bowlegs | ..... | ..... | 3,132.00 |
| Thurmond, T. A., Ardmore | 2,620.60 | 28,515 | 5,468.00 |
| *Tawes, A. W., Crisfield, Md. | ..... | ..... | 7,912.00 |
| *Taylor, Dr. J. C., New York, N. Y. | ..... | ..... | 8,697.00 |
| *Thomas, Hazel B., Norge | ..... | ..... | 2,213.00 |
| *Templeton, M. E., Phoenix, Ariz. | ..... | ..... | 20,954.00 |
| *Thomas, J. Elmer, Fort Worth, Tex. | ..... | ..... | 6,280.00 |
| The Texas Company, Tulsa | 1,440,533.24 | ..... | 2,067,082.00 |
| The Texas Company, Tulsa | ..... | Gas | 122,256.00 |
| *The Texas Company, Tulsa | 9,128.76 | ..... | 14,630.00 |
| *The Texas Company, Tulsa | ..... | ..... | 501.00 |
| *The Texas Company, Tulsa | ..... | ..... | 81.00 |
| Taylor, H. H., Tulsa | ..... | ..... | 66,914.00 |
| Taylor, H. H., Tulsa | ..... | ..... | 99,130.00 |
| *Taylor, A. H., Tulsa | ..... | ..... | 4,293.00 |
| *Tinkle, Maud., Sulphur | ..... | ..... | 2,732.00 |
| *Thomas, Rufus S., and Mary, Purcell | ..... | ..... | 10,924.00 |
| *Thompson, S. F., Okemah | ..... | ..... | 4,436.00 |
| Thompson Oil & Gas Co., Tulsa | 3,790.24 | 946 | 5,316.00 |
| *Thornton, David, Muskogee | ..... | ..... | 2,358.00 |
| Thlocco Oil Co., Tulsa | 11,248.04 | ..... | 18,094.00 |
| Tidal Oil Co., Tulsa | 1,071,280.90 | ..... | 1,388,750.00 |
| *Tidal Oil Co., Tulsa | ..... | Gas | 1,967.00 |
| Tidal Oil Co., Tulsa | ..... | 773,438 | 60,822.00 |
| *Tidal Oil Co., Tulsa | 10,832.95 | ..... | 13,711.00 |
| *Tidal Oil Co., (partners) | 8,053.78 | ..... | 9,797.00 |
| Tiger Mountain Oil Co., Tulsa | 4,864.20 | ..... | 6,511.00 |
| *Turner, John E., et al, Holdenville | ..... | ..... | 2,749.00 |
| Turman Oil Co., Tulsa | 4,493.14 | ..... | 5,946.00 |
| Texas Pacific Coal & Oil Co., Thurber, Tex. | 43,318.90 | 8,010 | 35,111.00 |
| *Teter, D. C., Duncan | ..... | ..... | 3,195.00 |
| Turman Oil Co., Tulsa | 132,143.53 | 176,950 | 226,946.00 |
| Tidal Oil Co., by request of Cherokee Warren Oil & Gas Co., Tulsa | 7,126.44 | ..... | 8,381.00 |
| Tidal Osage Oil Co., Tulsa | 509,336.38 | ..... | 762,112.00 |
| Tidal Osage Oil Co., Tulsa | ..... | Gas | 33,923.00 |
| **U** | | | |
| Umburn, Gillia, Weleetka | ..... | ..... | 8,996.00 |
| Umburn, W. L., Weleetka | ..... | ..... | 26,146.00 |
| United Eight Oil Trust, Madill | ..... | ..... | 23,064.00 |
| *Urbansky, Virgie, & Joseph, Oklahoma City | 3,943.98 | ..... | 6,191.00 |
| *United Prod. Co., Inc., Charleston, W. Va. | 1,684.48 | ..... | 2,757.00 |
| Urschel, C. F., Oklahoma City | 3,802.83 | 179 | 7,239.00 |
| Urschel, Mrs. Floyd S., Oklahoma City | 3,802.80 | 179 | 7,239.00 |
| *U. S. Royalties Corp., New York City | 4,054.63 | 763 | 5,250.00 |
| *U. S. Royalties Corp., New York City | 14,394.41 | ..... | 22,398.00 |
| *United Royalty Co., Newkirk | ..... | ..... | 3,155.00 |
| Utilities Production Corp., Tulsa | ..... | 54,755 | 5,133.00 |
| **V** | | | |
| *Vierson Oil & Gas, Okmulgee | 29,952.61 | ..... | 44,551.00 |
| *Sam K. Viersen, Okmulgee | 6,343.84 | ..... | 8,604.00 |
| *Vance, S. E., Tulsa | 2,337.40 | ..... | 4,312.00 |
| *Varnum, W. F., & Eliza, Shawnee | ..... | ..... | 14,692.00 |
| Valley Osage Oil Co., Tulsa | 19,077.11 | ..... | 24,911.00 |
| *VanGraafeiland, C. P., St. Louis, Mo. | ..... | ..... | 7,478.00 |
| Virland Oil & Gas, Tulsa | ..... | ..... | 4,171.00 |
| *Voorhees, Leon G., Oklahoma City | 18,039.45 | ..... | 23,684.00 |
| *Vick Royalty Co., Tulsa | ..... | ..... | 2,114.00 |
| Vernon Oil & Gas, Blackwell | 6,977.45 | ..... | 12,499.00 |
| *Vassar, Amanda, Tulsa | 2,156.89 | ..... | 3,546.00 |
| Vaughn & Rush, Dallas, Tex. | ..... | ..... | 82,333.00 |
| Vaughn & Rush, Dallas, Tex. | 48,641.00 | ..... | 36,670.00 |
| Voyles, P. E., Pawhuska | ..... | ..... | 5,141.00 |
| **W** | | | |
| Ward Oil & Gas, Tulsa | 9,663.66 | ..... | 12,733.00 |
| *Wood, Horna, Tulsa | 2,170.20 | ..... | 3,179.00 |
| Wood, Gilbert-Wood Syndicate No. 1, Oklahoma City | ..... | ..... | 23,133.00 |
| Wellsville Oil Co., Wellsville, N. Y. | 10,046.71 | ..... | 12,850.00 |
| *Windler, Louise, Enid | ..... | ..... | 2,267.00 |
| Wright, J. H., Sapulpa | 14,020.17 | 42,383 | 26,835.00 |
| *Wilcox, H. F., Oil & Gas, Tulsa | ..... | ..... | 2,258.00 |
| Wilcox, H. F., Oil & Gas, Tulsa | 217,829.86 | ..... | 307,104.00 |
| Wolverine Petroleum Corp., St. Louis, Mo. | 180,438.07 | ..... | 228,389.00 |
| Wolverine Petroleum Corp., St. Louis, Mo. | ..... | 293,366 | 17,584.00 |
| Warren Royalties, Inc., by Frank M. Miller, trustee | 8,847.86 | ..... | 12,954.00 |
| Warner Caldwell Oil Co., Titusville, Pa. | 30,544.38 | ..... | 34,579.00 |
| Winona Oil Co. of Delaware, Tulsa | 40,333.78 | ..... | 63,739.00 |
| *Westheimer & Daube, Ardmore | 15,854.16 | ..... | 29,264.00 |
| Westheimer & Daube, Ardmore | 248,301.93 | ..... | 340,264.00 |
| Wentz, L. H., Oil Div., Ponca City | 154,105.74 | 205,856 | 267,867.00 |
| *Work, W. K., Wewoka | ..... | ..... | 6,528.00 |
| *Work, E. P., Wewoka | ..... | ..... | 6,529.00 |
| Wallace, J. E., Okmulgee | ..... | ..... | 8,971.00 |
| *Walker, C. C., Okemah | ..... | ..... | 6,606.00 |
| *Walker, E. A., Oklahoma City | ..... | ..... | 42,483.00 |
| Westerly Oil Co., Bartlesville | 5,080.36 | 1,183 C.H. | 7,455.00 |
| *Wren, T. H., Okemah | ..... | ..... | 2,960.00 |
| *Wright, Archie K., Muskogee | ..... | ..... | 2,216.00 |
| *Wright, Archie K., Muskogee | ..... | ..... | 2,960.00 |
| *Wilcox, W. S., Garber | ..... | ..... | 2,726.00 |
| *Western States Royalty Co., Great Falls, Mont. | 2,883.29 | ..... | 4,561.00 |
| *Weil, Bert, New York, N. Y. | ..... | ..... | 2,958.00 |
| *Weil, Morris, New York, N. Y. | ..... | ..... | 2,755.00 |
| *Weber, Sophia, Marshall | ..... | ..... | 4,876.00 |
| *Welsh, Carrie B., Blackwell | ..... | ..... | 2,954.00 |
| *Welsh, J. L., Blackwell | ..... | ..... | 3,977.00 |
| Weeks, Margaret S., Ardmore | 7,463.76 | 50,384 | 13,871.00 |

(Continued on Page 114)

# Parkersburg

HAS SERVED THE OIL FIELDS OF THE WORLD FOR THIRTY-ONE YEARS

## Catalogs

LISTED in the lower right hand corner of this page, and illustrated at the left, are catalogs published by The Parkersburg Rig & Reel Company.

In them you will find complete information, description and illustrations of Parkersburg Equipment.

We will be glad to furnish you either a complete set of these catalogs, or those covering the specific items in which you are most interested.

When you send this page in to us, with your request for catalogs, be sure to write your name and address at bottom of page.

The PARKERSBURG RIG & REEL COMPANY

Executive Offices & Main Plant, Parkersburg, W. Va., U. S. A.

*Sales Offices Maintained and Stocks Carried in Every Producing Field*

Check Items for Catalogs Desired

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|---|---|---|---|
| Steel Derricks & Steel Crown Blocks | ☐ | Rig Irons A.P.I. Standard | ☐ |
| Chain-Driven Sand Reels & Bailing Reels | ☐ | Portable Drilling Machines Wood & All-Steel | ☐ |
| Steel Wheels | ☐ | Bolted Steel Tanks | ☐ |
| All-Steel Standard Rigs | ☐ | Miscellaneous Drilling Equipment | ☐ |

*Check the equipment in which you are interested, tear out and return this page, with your name and address, to us, and we will send you complete information on the items checked.*

# Field Problems and Their Solution

**EDITED BY THOMAS F. SMILEY**

*In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.*

*Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.*

*In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.*

*In case an immediate answer is important, one will be given by mail if the writer requests it.*

## ROTARY CUTTER SHOULD DO IT

**In our well No. 3, the screen corroded and sanded up. In attempting to pull the screen the wire wrapping became tangled and the screen jammed in the 6-inch casing. We pulled the screen up 8 feet and could pull it no further, each time breaking our drill stem in two. We put in a Gray release spear which became fouled in the top of the second joint of the screen. We have used 135-ton pressure against same, which pressure has been pulling the drill stem in two.**

**We have now pulled the die-collar off the top of five joints of drill stem so that as matters now stand, the screen is 8 feet from the bottom with the Gray release spear fouled in same, together with five joints of drill stem, and our foreman states that he can do nothing further. The well is standing full of oil and occasionally runs over the top of casing. We operate our wells with air and therefore have no standard rigs.**

**Our foreman claims that the only way this screen and five joints of drill pipe can be pulled out would be with standard tools which require a standard pumping rig to operate. Now, we have a rotary drilling rig right at the well. We would like to inquire whether there is any cutting tool made so that we could go into this well with a circular drill stem and by the use of revolving cutters go to the bottom of these five joints of pipe and cut same in two. Any advice you can give us will be appreciated.—D. H. D.**

An inside drill pipe rotary cutter, which runs on 2-inch, 4½-pound tubing or smaller tubing would seem to offer a solution for your difficulty. This cutter goes through the circulation hole in the tool joints and has a ball-bearing base. The weight of the tubing, together with the rotary motion, will cut off the drill pipe at any point above the top of the drill collar. After you have cut off the drill pipe you could set in a whipstock and drill past the Gray release spear and the screen. If you care for more detailed information regarding the process of whipstocking see the answer to J. A. H. under "Whipstocking a Well," in the Field Problems page of January 31, 1929.

## TESTING WITH FLUORESCEIN

**Frequently in faulty water shut off tests there is doubt as to where the water is coming from. Would it be possible to get definite proof as to whether the cementation is faulty or the water is a bottom water by using fluorescein poured in at the surface behind the last casing cemented? What quantity of fluorescein would be necessary in a 3,500-foot hole where the last string has traveled 2,000 feet below the previous pipe?**

**Can you suggest any other suitable and cheap chemical which would give the same results as fluorescein?—W. C.**

Fluorescein should be useful for the purpose that you set forth, but the quantity to be used depends upon the conditions you must deal with and the amount of water involved.

This has been made clear by A. W. Ambrose in United States Bureau of Mines bulletin 195, entitled "Underground Conditions in Oil Fields." Mr. Ambrose presents a thorough discussion upon the use of various detectors from which you can obtain the information for which you are asking.

Parts of his discussion upon fluorescein are quoted as follows:

"Fluorescein ($C_{20}H_{12}O_5$) is a weak acid and represents the type of detector that can be easily recognized by its color (yellowish brown) when dissolved in large volumes of water. When present in dilute quantities in a solution of clear water, it shows a magnificent yellowish-green flourescence by reflected light, which may appear colorless by transmitted light. This dye is almost colorless in dilute solutions containing free acid (except carbonic), hence the dye is more certain to be recognized if the solution is made slightly alkaline.

"Probably fluorescein is superior to all other dyes, because it is noticeable when present in minute quantities and is not absorbed by clays. Fluorescein will penetrate an acid solution further than eosine and give a color reaction that eosine may fail to give. Also it is not affected by sulphureted hydrogen and sulphurous acid.

"It diffuses very rapidly and can be detected with the naked eye when present in the ratio of 1 part in 40,000,000. By means of the fluoroscope it can be detected in amounts varying from 1 part in 500,000,000 to 1 part in 10,000,000,000 of clear water, but the practical limit of the fluoroscope is 1 part in 2,000,000,000, provided the water is pure and perfectly clear. If the liquid is muddy, filtering before observation is necessary.

"Extensive experiments have been made in France with fluorescein to determine the underground movement of different waters and the rate of flow. Dole has reviewed these experiments and the following description is taken largely from his paper.

"Fluorescein solution was added to sink holes near the watersheds, wells, springs, etc., and samples of water collected in near-by localities to learn whether the movement of the water could be traced. The amount of flourescein used varied from 2 to 4 pounds, according to the distance and the material to be traversed. The rate of flow was determined by dividing the distance between the upstream point where the fluorescein was added and the downstream point where the samples were collected by the length of time it took the dye to travel that distance.

"Some of the distances were surprisingly long, as the tabulation shows. The formations traversed were loam, limestone and millstone, clay, and Champigny travertine. The latter was much fissured and at places contained large caverns.

"In Experiment 1, of the Yonne and Cure region, fluorescein placed in a 160-foot well worked about 500 feet through a compact limestone in 24 hours, its rate of flow being much slower than in Experiment 2, where it traveled through the surface soil. The other experiments were conducted in very porous surface soils or cavernous formations in which the rate of flow is much greater than would be expected in the most porous water sands of oil fields. Experiment 1, in the Yonne and Cure region, is more comparable to water conditions in oil fields.

"The dye should be dissolved in a bucket of water. For testing a leaky water string, the dye can be poured around the outside of the casing and washed down with a hose.

"For a test at the bottom of the hole, a solution of the dye may be placed inside a glass container (R. E. Collom, petroleum technologist, Bureau of Mines, has used a large demijohn) and lowered on the bailer or bit. The container can be broken there by a blow with the dart of the bailer or with the bit."

## GETTING STRAIGHT HOLE

**Can you advise me where to get an instrument for recording whether or not a well is being drilled straight? The well referred to is drilled by cable tools.—O. H. H.**

This department can not refer you to any well surveying instrument that is for sale on the open market. Alexander Anderson, consulting engineer of Fullerton, Calif., has developed and is using a well surveying instrument successfully in his own work. A great many instrument makers and oil-producing companies are working on well surveying instruments of their own design and manufacture, but these instruments have not passed the experimental stage and can not be purchased. Probably the best way for you to test the straightness of a well being drilled is by the old acid bottle method. This method was described in answering the question by T. G. M. in The Oil and Gas Journal of January 31, and also in answering a question by S. O. C. in The Oil and Gas Journal of February 7.

To determine whether a well being drilled with cable tools is going straight or crooked, it is suggested that the acid bottle be run in a proper container such as was described in the answer to S. O. C., and also that the bottle container be run inside a bailer or sand pump to the points or depth at which the measurements are to be made, in accordance with the instructions given in answer to S. O. C.

**RESULTS OF EXPERIMENTS WITH FLUORESCEIN—DHUIS REGION**

| Experiment No. | Fluorescein used pounds | Maximum distance traveled feet | Difference in elevation feet | Time elapsed hours | Rate of flow feet per minute |
|---|---|---|---|---|---|
| 1 | 1.1 | 10,332 | 166 | 14 | 12.3 |
| 2 | 66 | 8,856 | 164 | 18 | 8.2 |
| 3 | 2.64 | 18,532 | 188 | 32 | 9.6 |
| 4 | 1.76 | 10,824 | 117 | 12 | 15 |
| 5 | .22 | 1,640 | 40 | 5 | 5.5 |
| 6 | 1.98 | 8,856 | ... | 14 | 10.5 |
| **YONNE AND CURE REGION** | | | | | |
| 1 | 0.6 | 492 | ... | 24 | *0.34 |
| 2 | 6.6 | 19,680 | 230 | 72 | 4.6 |
| 3 | 2.2 | 4,100 | ... | 1.25 | 55 |
| 4 | 4.4 | 38,212 | ... | 59 | 10.8 |
| 5 | 4.4 | 43,558 | 328 | 222 | 3.3 |

*Compact limestone.

## WILDCAT IN WASHINGTON

**Will you please give me all the information you have available on drilling a wildcat near Yakima, Wash., such as character and thickness of formations, geological report on that part of the State, best type of equipment to use, casing schedule, etc.? Also an estimate on buying a rig and drilling a well; contractor's price per foot and for a turnkey job for a 3,000-foot hole. I am enclosing a stamped and self-addressed envelope and would appreciate it if you will send me a reply at your earliest convenience.—J. P. S.**

To provide the information asked for in this communication would involve correspondence with some drilling contractor in the district named, with oil field equipment concerns, with the Washington State Geological Survey and perhaps also with some geologist or operator familiar with the geological features of the district. This correspondence you can conduct yourself with much greater directness and much more satisfactory results that would be possible if this department undertook to conduct it for you.

A request directed to the State Geological Survey, Olympia, Wash., should bring the geological report desired. Equipment manufacturers whose advertisements appear regularly in The Oil and Gas Journal will be glad to submit prices on a rig. You could get into touch with a drilling contractor by using a few lines in the classified columns of The Oil and Gas Journal or in a Washington newspaper. Also drilling contractors use the classified pages of this publication. If you have business or other connections in the Yakima region you might easily get into contact with a drilling contractor through them. A drilling contractor could give you the estimate you want on putting down a hole, besides information as to the best type of equipment, casing schedule, etc.

## REPRESSURING MAY BENEFIT

**We have some old oil wells producing from the Big Lime sand in the Woodfield district, Ohio, and are drilling more. Three wells recently drilled showed for 4 to 6 bbls. natural but would do only 1 bbl. after shooting with 60 down to 10 quarts. Reducing the size of the shot down to 10 quarts made no difference. The sand seemed to plaster up. The accompanying plat shows the locations of wells, character of production, etc. Do you think it would be best to try to produce these wells without shooting them? Would repressuring with air, gas, or hot gas be worth while?—G. O. V.**

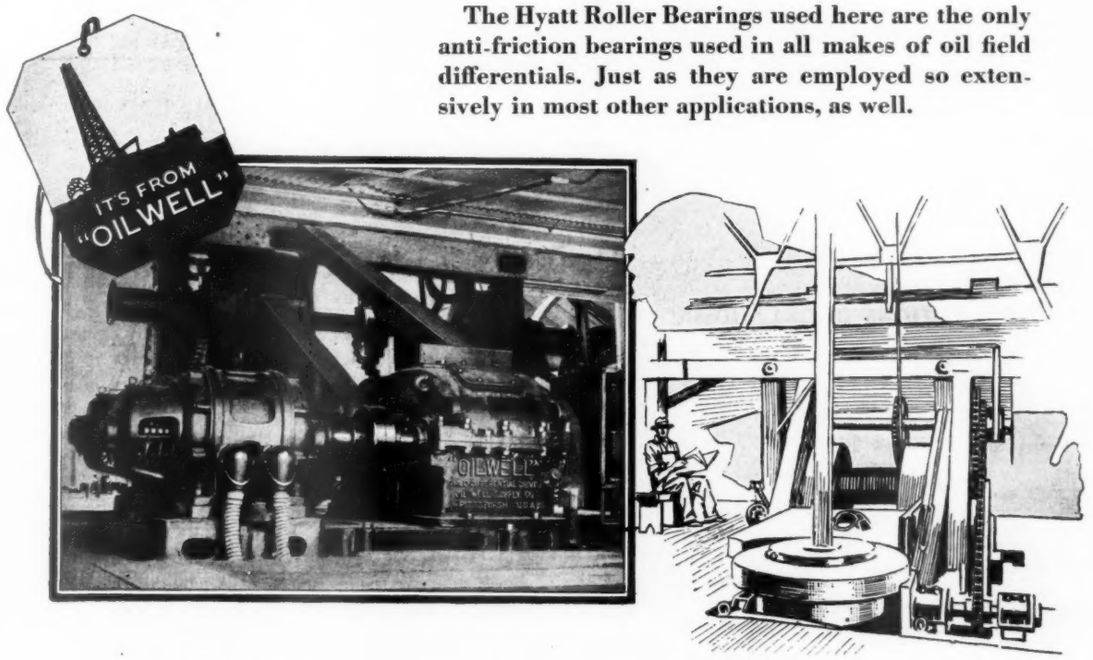
If looks as if you have a Big Lime pool from which the gas has been exhausted. Repressuring generally has been successful in your locality and there is reason to believe that it would benefit the Big Lime production you mention.

You are probably right in your assumption that shooting tightens up the sand instead of loosening it. Apparently, what you need is gas pressure to force the oil into the wells. Repressuring with either air or gas should be good. To put in gas from a Berea gas well under its own pressure would be just about ideal if you can afford to use the gas for this purpose.

# "OILWELL" Hild Differential Drives . . . Hyatt Protected

**FASTER drilling, steadier drilling . . . with less power, less wear, lower labor and maintenance costs . . . contributed now by this new Hyatt equipped "Oilwell" Hild Differential Drive.**

**The Hyatt Roller Bearings used here are the only anti-friction bearings used in all makes of oil field differentials. Just as they are employed so extensively in most other applications, as well.**




*The Hyatt equipped "Oilwell" Hild Differential Drives (Licensed by Haliburton), are built by the Nuttall Works, Westinghouse Electric & Mfg. Co., Pittsburgh, and sold by Oil Well Supply Co., Pittsburgh, and all their branch stores throughout the oil fields.*

**Because sturdy Hyatts stand up under the sudden shocks and top speed pressure of 24-hour drilling . . . the steady grind of rotaries . . . the speed and vibration of reverse clutches . . . the day in and day out demands of pumping units, rigs and all other equipment, they are the preferred bearing for this service.**

**Most leading builders furnish Hyatt protection because they know it means longer lived, stronger built, money saving oil well equipment.**

**HYATT ROLLER BEARING COMPANY**

**Newark Detroit Chicago Pittsburgh Oakland**

# HYATT

## ROLLER BEARINGS

PRODUCT OF GENERAL MOTORS

## OKLAHOMA PRODUCTION, FOURTH QUARTER, 1928

(Continued from Page 110)

| Name and address— | No. of bbls. | M. ft. gas | Amount |
|---|---|---|---|
| Wills & Smith, Ardmore | 5,334.43 | 15.153 | 7,767.00 |
| Winemiller, John H., Tulsa | 3,947.12 | ..... | 5,330.26 |
| *Whitney, E. W., Wewoka | ..... | ..... | 63,292.28 |
| Warner Caldwell Oil Co., Titusville, Pa. | 24,755.35 | ..... | 34,579.39 |
| *Wangerien, L. W., Okmulgee | ..... | ..... | 2,238.52 |
| *Wangerien, C. W., Okmulgee | ..... | ..... | 5,004.91 |
| *Washington Royalty Co., Bartlesville | 11,506.02 | ..... | 17,768.25 |
| *Walker, E. A., Oklahoma City | 32,244.88 | ..... | 42,482.23 |
| Waggoner Petroleum Co., Ponca City | 2,931.66 | 33.578 | 5,767.82 |
| *Ward, H. Z., Heavener | ..... | ..... | 4,058.30 |
| *Wallace, William L. and Lula, Shawnee | ..... | ..... | 2,786.35 |
| *Wilborn, S. A., Sulphur | ..... | ..... | 2,464.38 |
| Wittmer Oil & Gas Prop., Pittsburgh, Pa. | 6,316.90 | 9.986 | 10,926.14 |
| *Woods, W. E., Cox City | ..... | ..... | 3,777.50 |
| Wood Oil Co., Tulsa | ..... | ..... | 11,771.09 |
| *Wolf, C. Dale, Wewoka | ..... | ..... | 4,094.43 |
| *Wilcox, Flossie E., Shawnee | ..... | ..... | 2,331.36 |
| *Weil, Bert, New York, N. Y. | ..... | ..... | 3,650.21 |
| Winkler & McQueen, Inc., Duncan | 12,476.24 | ..... | 15,988.91 |
| *Wren, T. H., Okemah | ..... | ..... | 2,050.13 |
| Westland Oil Co., Tulsa | 36,338.57 | 67.225 | 55,514.00 |
| *Wolcott, C. W., guardian, Coweta | ..... | ..... | 2,972.22 |
| White Eagle Oil & Refining, Wichita, Kans. | 36,298.55 | 18.520 | 54,253.86 |
| *Wilson, Benton, Greenfield, Mo. | ..... | ..... | 5,441.61 |
| *White, C. O., Okemah | ..... | ..... | 2,088.87 |
| *Wright, James, Bristow | ..... | ..... | 4,234.00 |
| *Whom, L. F., & Pollie, Duncan | ..... | ..... | 2,242.10 |
| *Willmott, John W., San Diego, Calif. | ..... | ..... | 22,666.62 |
| Wiser Oil Co., Sistersville, W. Va. | 83,184.94 | ..... | 103,481.00 |
| Wolverine Petroleum Corp., St. Louis, Mo. | ..... | 293.355 | 17,884.47 |
| Whitehill Oil Corp., Tulsa | 7,207.80 | ..... | 9,279.50 |
| Whitehill Oil Corp., Tulsa | 6,018.72 | ..... | 7,743.55 |
| *Whitehill Oil Corp., Tulsa | 1,406.81 | ..... | 1,975.66 |
| Watchorn Oil & Gas, Oklahoma City | 15,823.21 | ..... | 20,886.64 |
| *Ward, B. F., Wilson | 5,079.33 | ..... | 6,426.99 |
| Walsh Oil Co., Tulsa | 6,295.47 | ..... | 7,904.34 |
| *Weber, Richard, Marshall | ..... | ..... | 2,265.01 |
| *Weber, George, Marshall | ..... | ..... | 2,263.00 |
| Wise & Jackson, Sapulpa | ..... | ..... | 5,962.73 |
| *Wood, Roy, Oklahoma City | ..... | ..... | 9,893.57 |
| Y | | | |
| *York Petroleum Co. & I. Cromwell, Muskogee | 3,032.96 | ..... | 5,830.25 |
| *Young, L. W., Oklahoma City | ..... | ..... | 23,831.41 |
| *Youts, Harriett E., Shawnee | ..... | ..... | 100,280.62 |
| *Youts, C. A., Shawnee | ..... | ..... | 2,753.88 |
| *Youts, C. A., Shawnee | ..... | ..... | 32,530.23 |
| Z | | | |
| *Zanti, Joe, Okmulgee | ..... | ..... | 2,962.94 |
| Zola Oil Co., Tulsa | 14,579.24 | ..... | 18,126.37 |
| *Zollars, Effie M., Lincoln, Ill. | ..... | ..... | 2,249.75 |
| Zimmerman, L. W., Chicago, Ill. | ..... | ..... | 30,047.23 |
| *Zollinger-Jarvix & Andrews, Shawnee | ..... | ..... | 15,144.79 |

## WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 50)

**HUGHES COUNTY**

E. W. Whitney and others' No. 1 Moore, SE cor. SW Sec. 17-5-9 ..... Shut down 3,345 ft.
Pure Oil Co.'s No. 1 Fixico, NE cor. SW Sec. 18-8-9 ..... Dry and abandoned 4,500 ft
Howard Petroleum Co.'s No. 1 Gilbert, NW cor. SE Sec. 25-8-10 ..... Drlg. 4,667 ft.
Gypsy Oil Co.'s No. 1 McGirt, NE cor. NW SW Sec. 21-6-8 ..... Sand 3,310-30 ft.; corrected, hole full water.

**CANADIAN COUNTY**

Wirt Franklin Pet. Co.'s No. 1 North, NW cor. NW Sec. 18-13-10w ..... Drlg. 5,824 ft.

**OKLAHOMA COUNTY**

Slick & Bailey's No. 1 Koester, C SE NE Sec. 18-13-3w ..... Shut down 5,030 ft.
Cromwell & Franklin's No. 1 Thompson, SW cor. NE NE Sec. 15-12-3w ..... Drlg. 7,132 ft.
Indian Terr. Ill. Oil Co.'s No. 1 fee, C SE SE Sec. 24-11-3w ..... Flowing 5,697 bbls. daily from 6,498 ft.
Hall & Briscoe's No. 1 Holmes, NE cor. SW SE, Sec. 10-11-3w ..... Drlg. 3,880 ft.

**OKFUSKEE COUNTY**

Moose & Daniels' No. 1 Stidham, SW cor. NW Sec. 4-11-10 ..... Shut down 622 ft.
T. B. Slick, Inc.'s No. 1 Barry, SE cor. NE SE Sec. 21-11-7 ..... Drlg. 4,182 ft.
Erwin and others' No. 1 Patterson, NW cor. SE Sec. 15-13-9 ..... Location.
Erwin et als' No. 1 Patterson, NW cor. SE Sec. 15-13-9 ..... Location.
Prairie O. & G. Co.'s No. 1 Palmer, NW cor. NW NE Sec. 2-11-9 ..... Rig.

**SEQUOYAH COUNTY**

Cooper & Badger's No. 1 Young, NW cor. NE NE Sec. 7-12-20 ..... Shut down.
Hunt and others' No. 1 Unknown, SE cor. NW SW Sec. 12-12-23 ..... Drlg. 1,016 ft.
Buffington et al's No. 1 Melcher, C SW NW Sec. 31-12-24 ..... Shut down 2,320 ft.

**PAWNEE COUNTY**

Washoma Oil Co. and others' No. 1 Buffalo, SE cor. NE Sec. 33-22-5 ..... S.D. 3,200 ft.

**POTTAWATOMIE COUNTY**

Shell Pet. Corp.'s No. 1 Livingston, SW cor. SE Sec. 33-7-5 ..... Swb. 35 bbls. oil and some wtr. 4,573 ft.
Superior Oil Co.'s No. 1 Herminghausen, SW cor. NW NE Sec. 24-8-2 ..... Drlg. 5,455 ft.
T. B. Slick's No. 1 Sailor, SE cor. NW NW Sec. 12-8-2. ..... Standardizing 4,600 ft.
T. B. Slick and Shell Pet. Corp.'s No. 1 Hurst, SE cor. NW NW Sec. 17-7-2 ..... Preparing to plug 6,098 ft.
Shell Pet. Corp.'s No. 1 Wyatt, SW cor. NW NE Sec. 17-6-5 ..... Dry and abandoned 4,414 ft.
Mid-Continent Petroleum Corp.'s No. 1 James, SE cor. SE Sec. 22-8-3 ..... Rig.
Rush & Vaughan's No. 1 Laster, SE cor. NE NE Sec. 19-6-4 ..... Rig.
Rush & Vaughn's No. 1 Lester, SE cor. NE NE Sec. 19-6-4 ..... Drlg. 1,660 ft.

**CADDO COUNTY**

J. B. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w ..... Shut down 150 ft.
W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w ..... Shut down 3,394 ft.
English Drilling Co.'s No. 2 Pruitt, CNL NW SE Sec. 22-6-10w ..... Rigged up and shut down.

**STEPHENS COUNTY**

Stahl & Burris' No. 1 Jefferson, SE cor. NE NW Sec. 2-1-7w ..... Drlg. 2,746 ft.
Prince Bros.' No. 1 Hidgecoxie, NW cor. NE Sec. 29-2-5w ..... Rigging rotary.
Prince Bros.' No. 1 Hidgecoxie, NW cor. NE Sec. 29-2-5w ..... Drlg. 1,486 ft.

**SEMINOLE COUNTY**

Magnolia Pet. Co.'s No. 1 Germany, SE cor. NW Sec. 30-9-5 ..... Plugging back to Hunton lime.
Phillips Pet. Co.'s No. 1 Miller, NW cor. SW Sec. 34-11-7 ..... Shut down 3,950 ft.
Burke-Greis Oil Co's No. 1 Cyrus, SE cor. NE NW Sec. 13-9-7 ..... Drlg. 3,420 ft.
E. W. Whitney's No. 1 Harjo, NE cor. NW NE Sec. 25-7-6 ..... Plugged back 4,325 ft. and shut down.
Gypsy Oil Co.'s No. 1 Andrews, NE SE NW Sec. 27-10-7 ..... Shut down 4,010 ft.
Shaffer Oil & Ref. Co.'s No. 1 Catchochee, SW cor. SW NE Sec. 18-10-7 ..... Dry and abandoned 3,782 ft.
T. W. Adkins' No. 1 Reed, NE cor. NW Sec. 2-8-8. ..... Dry and abd. 4,370 ft.
McCulloch Oil Co.'s No. 1 McGilbray, SW cor. SW NE Sec. 4-8-8 ..... Rig burned down 3,325 ft.
McCulloch Oil Co.'s No. 1 Powell, NW cor. NW, Sec. 11-6-5 ..... Location.
Empire Gas & Fuel Co.'s No. 1 Harjo, SW cor. NW SE Sec. 17-7-6 ..... Hole full water. Wilcox 4,592-4,6[illegible] ft.
Marland Oil Co.'s No. 1 Strothers, NW cor. SE NE Sec. 5-10-7 ..... Drlg. 4,021 ft.
Magnolia Pet. Co.'s No. 1 Carroll, SW cor. NW SE Sec. 1-7-5 ..... Dry and abd. 4,820 ft.
Magnolia Pet. Co.'s No. 1 Harjo, NE cor. SE Sec. 34-6-7. Rig.
T. B. Slick and others' No. 1 Davis, NE cor. NE Sec. 26-6-6 ..... Standardizing 3,520 ft.

**MAJOR COUNTY**

Randau & Mooney's No. 1 Parker, SE cor. NE NW Sec. 4-23-16w ..... Show oil 1,235 ft.; shut down.
Earl and others' No. 1 Turner, C NE NE Sec. 23-20-14w. Rig.
Wilson et al's No. 1 Unknown, NE cor. NE Sec. 4-23-16w. Cellar.

**WOODS COUNTY**

E. K. Miller's No. 1 Copenhavera, NW cor. NW Sec. 18-24-13w ..... Moving in tools.
Gypsy-Prairie and others' No. 1 Thompson, SE cor. SW Sec. 10-25-15w ..... Standardizing 4,208 ft.
Sinclair Oil & Gas Co.'s No. 1 Thompson, C SW SW Sec. 33-27-16w ..... Rig and tools.

**MURRAY COUNTY**

Bison Oil Co.'s No. 1 Labor, NW cor. NW Sec. 17-1-2. .. Shut down for casing 1,900 ft.
Ramsey Bros.' No. 1-A Malock, C SW NE Sec. 32-1-3. Drlg. 1,075 ft.

**DEWEY COUNTY**

Huckaby & McCoy's No. 1 Perfect, NE cor. NE Sec. 9-18-15w ..... Drlg. 4,470 ft.
Don Sifers' No. 1 Jordan, SW cor. NW Sec. 16-16-17w. Spudded and shut down.

**BECKHAM COUNTY**

C. & H. Petroleum Co.'s No. 1 Barnes, SW cor. NW NE Sec. 32-9-22w ..... Shut down 3,460 ft.
Martin and others' No. 1 Cluck, NW cor. SE Sec. 1-8-25w. Shut down 3,000 ft.
L. C. Hivicks' No. 1 Davis, C NW NE Sec. 4-11-26w .. Shut down 725 ft.
Producers Exploration Co.'s No. 1 Seidell, SE cor. SW SW Sec. 17-9-22w ..... Shut down 2,402 ft.
Carson and others' No. 1 Danby, SW cor. SE NE Sec. 20-8-22w ..... Shut down 954 ft.
Pferffel and others' No. 1-A Carter, NE cor. NE Sec. 35-9-22w ..... Shut down 1,500 ft.
Day Oil Co.'s No. 1 Ault, NW cor. NW Sec. 33-8-21w.... Shut down 1,515 ft; corrected.

**GRADY COUNTY**

Remington and others' No. 1 Fryrear, SW SW NE Sec. 13-9-5w ..... Shut down 720 ft.
J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w .. Spudded and shut down.
J. M. Henry and others' No. 1 Abraham, SE cor. NW Sec. 4-5-8w ..... Rig.
J. B. Nichols' No. 1 Brake, SE cor. NE SE Sec. 7-5-7w . Shut down 2,307 ft.

**McINTOSH COUNTY**

Marione and others' No. 1 Smith, SW cor. NW SE Sec. 32-9-16 ..... Shut down 2,387 ft.; corrected.
Patterson and others' No. 1 Smith, SW cor. NW SE Sec. 32-9-16 ..... Shut down 5,451 ft.
Wolfe and others' No. 1 Unknown, NW cor. SE Sec. 15-12-18 ..... Rig on ground.
Wolfe et als' No. 1 Unknown, NW cor. SE Sec. 15-12-18 . Rig on ground.

**CLEVELAND COUNTY**

Daniels & LeWright's No. 1 Vandever, C SW Sec. 15-7-1w ..... Shut dov[illegible] 2,130 ft.
Phillips Pet. and T. B. Slick's No. 1 Hentleman, NE cor. NE Sec. 8-10-2w ..... Drlg. 5,015 ft.

**KIOWA COUNTY**

Blue Mountain Oil Co.'s No. 1 Jones, SE cor. NW NW Sec. 17-5-14w ..... Shut down 530 ft.
C. B. Cloyes' No. 1 Brasill, SW cor. NE Sec. 34-7-17w.. Shut down 950 ft.
Dave Malernee's No. 1 Van Kirk, NW cor. NW Sec. 35-7-15w ..... Shut down 858 ft. in granite.
A. C. Varner and others' No. 1 Bonham, CSL NW NW Sec. 5-6-18w ..... Shut down 1,127 ft.

**CUSTER COUNTY**

W. E. Witt's No. 1 Wellman, C SE Sec. 1-14-14w ..... Rig and tools.

**PONTOTOC COUNTY**

Moore & Curran's No. 1 Allen, SE cor. SW SW Sec. 23-5-5 ..... Shut down 1,460 ft.
Denver P. & R. Co.'s No. 1 Roberts, SE cor. NE NE Sec. 36-5-4 ..... Drlg. 1,475 ft.

**COMANCHE COUNTY**

Green and others' No. 1 Wilson, C NE SW Sec. 14-1-12w. Shut down 4,055 ft.
Wirt Franklin Pet. Co.'s No. 2 Holler, NW cor. NW Sec. 2-4-11w ..... Drlg. 3,391 ft; corrected.
Wright et als'. No. 1 Cross, NW cor. SW SW Sec. 4-1-9w.. Rig.

**COAL COUNTY**

Indian Territory Illuminating Oil Co.'s No. 1 Cook, SW cor. NW Sec. 10-1-11 ..... Drlg. 6,298 ft.
Robert Galbreath and others' No. 1 Jones, SW cor. SE Sec. 24-1-9 ..... Fishing 3,350 ft.
J. S. Cosden's No. 1 Richardson, NW cor. NE NE Sec. 6-2-8 ..... Rigging up.
McGinley & Sigler's No. 1 Willsey, NW cor. SE SE Sec. 7-2-8 ..... Location.

**PITTSBURG COUNTY**

Kerr & Koy's No. 1 Hall, C NW NW Sec. 32-4-12 ..... Spudded.

**JACKSON COUNTY**

Altus Oil Co.'s No. 1 Northington, NE cor. NE Sec. 4-1-20w ..... Shut down 2,020 ft.

**SOUTHERN OKLAHOMA**

**BRYAN COUNTY**

Alexander & Oppenheimer's No. 1 Hampton, SE cor. NE Sec. 26-7s-11 ..... Shut down 1,425 ft.
McNiell & Gross' No. 1 Smith, CEL SE NW NE Sec. 11-6s-9e ..... Shut down 375 ft.

**MURRAY COUNTY**

Alter and others' No. 1 Johnson, SW cor. NW Sec. 14-4-7. Spudded and shut down.

**COTTON COUNTY**

Cuyler & Pyson's No. 1 Thomas, SE cor. SE SW Sec. 16-4-12w ..... Shut down 2,127 ft.
Amerada Pet. Corp.'s No. 1 Dulaney, SE cor. NW NW Sec. 31-4-9w ..... Rig and tools.
Pierce & Brown's No. 1 Hertzler, NW cor. NW Sec. 31-2-12w ..... Drlg. 2,380 ft.
Shasta Oil Co.'s No. 1 Pah-pe-chi, NE cor. NE Sec. 34-1s-11w ..... Drlg. 230 ft.

**JEFFERSON COUNTY**

Bridwell et al's No. 1 Trout, CEL NE Sec. 33-6s-6w .... Drlg. 2,315 ft.
Amerada Pet. Corp.'s No. 1 Emerson, NW cor. SE SW Sec. 28-5s-8w ..... Shut down 4,516 ft.

**CHOCTAW COUNTY**

Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6-19 ..... Shut down 1,346 ft.

**TILLMAN COUNTY**

Bray and others' No. 1 Barker, NE cor. SW NW Sec. 9-1-15w ..... Shut down 805 ft.
Dixie Oil Co.'s No. 1 McKinney, NE cor. NE Sec. 29-3s-18w ..... Shut down 3,092 ft.
Stanley & McGregor's No. 1 Mock, NW cor. NW SW Sec. 33-1-20w ..... Dry and abandoned 2,446 ft.
Landfair and others' No. 1 Smith, SE SW SE Sec. 6-2s-15w ..... Shut down 2,535 ft.
Allen & Treadwell's No. 1 Howell, NW cor. SE Sec. 13-1-17w ..... Shut down 625 ft.

**JOHNSON COUNTY**

Wapanucka Oil Co.'s No. 1 Banks, Sec. 28-2s-9 ..... Shut down 1,520 ft.
Bush Creek Oil Co.'s No. 1 Kirby, SE cor. NE NW Sec. 9-4-7 ..... Shut down for casing 405 ft.
Smith & Kinsley's No. 1 Lane, SE cor. NW Sec. 29-1-7. Drlg. 1,720 ft.
Yale Oil Syndicate's No. 1 Craige, C NW NE Sec. 36-8s-9e ..... Shut down 1,050 ft.
Sullivan and others' No. 1 Wines, NW NE NW Sec. 11-7s-5e ..... Shut down 475 ft.
E. J. Stump and others' No. 1 McGinnis, SW Sec. 26-3s-8w ..... Drlg. 1,359 ft.
McCrow and others' No. 1 Trust, SW Sec. 12-1s-8e ..... Shut down 1,893 ft.

**CARTER COUNTY**

Devonian Oil Co.'s No. 1 Myer, NW cor. SE Sec. 19-5s-3w. Shut down 2,831 ft.
Avon-Dickey's No. 1 Anderson, NE cor. SE NE SE Sec. 32-4s-2 ..... Drlg. 625 ft.
Schermerhorn Oil Co.'s No. 2 Joliff, NE NW Sec. 24-5s-1e ..... Drlg. 3,770 ft.
Humble Oil & Ref. Co.'s No. 1 Hitchcock, SE NE Sec. 12-4s-3e ..... Drlg. 1,420 ft.

# Texas Gross Production, Fourth Quarter 1928

The gross production of crude oil in Texas during the fourth quarter of 1928 totaled 63,855,250 bbls. with a value of $63,918,050 compared with a total of 44,550,350.69 bbls. and a value of $42,564,610.31 for the third quarter, according to reports made to the state auditor at Austin for taxation purposes. The report as compiled from records in the state auditor's office, follows:

A

| Name and address— | Barrels | Value |
|---|---|---|
| Andrews, W. H., et al, Putnam (9-30-28) | 1,356.90 | $1,889.47 |
| Adamson, Peter, Jr., Tulsa (9-30-28) | 1,616.67 | 3,186.56 |
| Artex Oil Co., Wichita Falls | 2,124.80 | 3,209.20 |
| Alamo Oil Co., Brownwood | 429.00 | 583.00 |
| Arnold, J. L., et al, Eastland | 2,658.31 | 3,171.66 |
| Ama-Gray Oil Co., Amarillo | 4,229.33 | 5,208.22 |
| Acorn, Beaumont | 5,988.23 | 7,185.88 |
| Ada Belle Oil Co., Batson | 24,448.43 | 29,548.45 |
| A. & P. Production Co., Houston | 60,864.61 | 75,075.16 |
| Atlas Oil Corp., Humble | 2,588.00 | 3,106.00 |
| Alamosa Oil Co., Amarillo | 24,228.63 | 22,182.53 |
| Alaska Petroleum Co., Amarillo | 1,319.32 | 1,576.36 |
| Abbott, R. W., Beaumont | 2,287.35 | 2,744.82 |
| Amicable Life Insurance Co., Waco | 304.00 | 425.60 |
| Ashe Syndicate, Fort Worth | 512.68 | 741.28 |
| American Refining Properties, Wichita Falls | 2,062.27 | 3,217.13 |
| Adamson, Peter, Jr., Fort Worth | ... | 1,579.65 |
| Ancell, Geo., Sr., Electra | 2,363.87 | 2,954.84 |
| Abrams, Earl, Bridgetown | 547.50 | 874.73 |
| All-American Oil & Gas Co., Oklahoma City, Okla. | 48.31 | 66.51 |
| Adams, Dr. W. B., Wichita Falls | 524.09 | 765.18 |
| Ailes, J. W., Wichita Falls | 628.50 | 917.61 |
| Ascot Co., Wichita Falls | 7,879.48 | 12,938.31 |
| Allday Oil Corp., Wichita Falls | 7,791.09 | 11,458.59 |
| American Refining Properties (M. J. Bashara estate) Wichita Falls | 3,465.07 | 5,232.09 |
| American Refining Properties (N. B. Chenault estate) Wichita Falls | 1,767.57 | 2,652.14 |
| Apple-Brandeberry Oil Co., Wichita Falls | 10,229.06 | 15,604.95 |
| Arco Oil Co., Wichita Falls | 21,958.95 | 19,235.65 |
| Antilley, J. H., Beaumont | 3,872.24 | 4,646.68 |
| American Maracaibo Co., New York, N. Y. | 48,927.35 | 46,025.41 |
| American Maracaibo Co., New York, N. Y. | 24,655.00 | 19,134.93 |
| Aarco Oil & Gas Co., Baltimore, Md. | 8,560.09 | 13,405.17 |
| American Refining Properties, Wichita Falls | 66,041.11 | 75,648.70 |
| Arkansas Fuel Oil Co., Shreveport, La. | 6,914.00 | 9,721.50 |
| American Refining Properties (Creditors Committee, W. M. Priddy estate) Wichita Falls | 9,216.62 | 12,903.26 |
| Abercrombie Co., J. S., Houston | 175,025.17 | 216,817.79 |
| Atlantic Oil Producing Co., Dallas | 1,853,865.20 | 1,286,532.23 |
| Adams, R. W. (trustee), Amarillo | 8,380.19 | 12,909.61 |
| Associated Oil Co.-Texas Division, Tulsa, Okla. | 1,917.12 | 2,743.46 |
| Anchor Oil Co., Dallas | 1,101.88 | 1,509.72 |
| Amerada Petroleum Corp., Tulsa, Okla. | 294,909.09 | 276,939.03 |
| Antelope Creek Oil & Gas Co., Amarillo | 10,942.67 | 10,504.96 |
| Andrews Petroleum Corp., New York, N. Y. | 4,726.95 | 5,150.04 |
| Allun, Wm. E., (Atlantic Keystone Petroleum Corp., Bolivian), Fort Worth | 1,525.19 | 1,525.19 |
| Atkinson and Sanders Oil Corp., Breckenridge | 19,102.09 | 28,258.92 |
| Amarillo Oil Co., Amarillo | 2,154.68 | 1,766.83 |
| Ailes, O. F., Wichita Falls | 31,457.31 | 65,321.62 |

B

| | | |
|---|---|---|
| Barkley & Crotty, Ranger | 4,829.64 | 7,061.65 |
| Barkley, Gholson, et al, Ranger | 203.93 | 348.72 |
| Baker, Fred R., and Mollie B., Breckenridge | 1,854.00 | 2,795.01 |
| Big Indian Oil & Development Co., Gainesville | 784.15 | 1,097.81 |
| Burke-Greis Oil Co., Tulsa, Okla. | 2,845.34 | 4,492.47 |
| Broderick, A. J., and Calvert, Geo., Fort Worth | 555.09 | 933.78 |
| Baird Oil Co., Putnam | 250.12 | 340.16 |
| Borealis Oil Co., Oklahoma City, Okla. | 4,588.39 | 7,025.94 |
| Beams, Drew, Okmulgee, Okla. | 1,121.25 | 1,643.23 |
| Brown-Pope Oil Co., Austin | 2,732.07 | 3,852.22 |
| Breeding & Hutson, Rising Star | 1,641.92 | 2,783.71 |
| Barkley & Conway, Ranger | 3,364.79 | 5,952.89 |
| Brownwood Producing & Refining Co., Brownwood | 1,491.75 | 2,036.67 |
| Barbara Oil Co., Oklahoma City, Okla. | 4,382.41 | 7,163.99 |
| Burris, Joe D., et al, Cross Plains | 3,860.00 | 5,404.00 |
| Piel, Wm. A., Van Ormy | 48.00 | 48.80 |
| Blue Bonnett Petroleum Corp., San Antonio | 1,031.70 | 1,162.96 |
| Burns, L. T., Wichita Falls | 54,223.59 | 86,123.86 |
| Bridwell & Heydrick, trustee, Wichita Falls | 2,775.64 | 4,455.36 |
| Blair & Kell, Dallas | 1,362.89 | 1,875.84 |
| Briggs, R. T., Corsicana | 96.70 | 124.35 |
| Bryant, M. D., San Angelo (9-30-28) | 1,951.00 | 1,170.94 |
| Bluebonnett Oil Co., Wichita Falls (9-30-28) | 817.85 | 1,206.27 |
| Byrd & Golston, Brownwood (9-30-28) | 6,350.34 | 9,991.74 |
| Bleakley and Kennison, Wichita Falls (9-30-28) | 973.67 | 1,307.88 |
| Bennett, Mills Production Co., Houston (6-30-28) | 34,497.66 | 40,704.31 |
| Bennett, Mills Production Co., Houston (12-31-27) | 3,061.99 | 6,589.60 |
| Bashara, M. J., & Sons, Wichita Falls | 7,338.53 | 8,747.01 |
| Bashara & Co., Wichita Falls | 3,067.95 | 3,528.15 |
| Beaver Oil Corp., Oklahoma City, Okla. | 9,500.00 | 10,171.59 |
| Black Diamond Oil Co., Amarillo | 389.85 | 409.34 |
| Badger Oil Co., The, Amarillo | 8,989.11 | 11,649.21 |
| Bell Oil & Gas Co., Tulsa, Okla. | 2,686.92 | 2,418.64 |
| Buttram Petroleum Corp., Oklahoma City, Okla. | 41,924.02 | 69,313.29 |
| Black-Pearson & Hudson, Corsicana | 3,742.33 | 3,742.33 |
| Bashara, J. F., Houston | 6,470.79 | 7,764.79 |
| Bashara & Bashara, Waco | 423.00 | 459.15 |
| Bowman Oil Co., Rockdale | 972.75 | 1,371.58 |
| Bynum, W. W., deceased, estate, Rockdale | 1,182.01 | 1,666.63 |
| Bynum & Palmer, Rockdale | 238.21 | 343.89 |
| Bartlett Production Co., Rockdale | 1,328.99 | 1,862.73 |
| Brown, Dr. E. W., estate, Orange | 1,006.59 | 1,207.88 |
| Burton McKee Oil Corp., Strawn | 316.57 | 440.03 |
| Britton Gordon & Wickens, Strawn | 545.20 | 850.51 |
| Brazos River Gas Co., Wichita Falls | 500.05 | 866.84 |
| Big Lake Oil Co., Pittsburgh, Pa. | 1,534,944.00 | 1,534,944.00 |
| Brown, Mrs. Carrie, et al, Orange | 22,554.47 | 26,825.47 |
| Benedum-Trees Oil Co., Pittsburgh, Pa. | 16,592.03* | 12,922.21 |
| Big State Oil Corp., Dallas | 123.49 | 155.61 |
| Black, W. A., Albany | 926.96 | 1,091.65 |
| Baker, J. A., and Mollie B., Breckenridge | 7,596.00 | 10,710.36 |
| Barkley, Crotty, Six & Little, Ranger | 1,045.18 | 1,369.17 |
| Brooks & Hanlon, Inc., Tulsa, Okla. | 796.12 | 1,035.74 |
| Biggs Oil & Gas Co., McKinney | 957.00 | 1,547.66 |
| Bartlett, Wm., Electra | 374.54 | 603.00 |
| Black Cat Oil Co., Electra | 1,024.62 | 1,427.01 |
| Brinkley Producing & Refining Co., Pittsburgh, Pa. | 561.01 | 724.63 |
| Bourbon Royalty Co., (and Lackey, W. G.,) Dallas | 5,730.52 | 4,392.42 |
| Bluebonnett Oil Co., Wichita Falls | 857.70 | 1,295.11 |
| Bailey, Carl B., Wichita Falls | 7,736.29 | 11,035.04 |
| Baldwin, F. C., et al, Fort Worth | 2,062.93 | 3,286.67 |
| Bonner, J. H. S., et al, Wichita Falls | 5,297.96 | 7,825.48 |
| Bonehil Co., The, Wichita Falls | 5,699.44 | 8,973.32 |
| Babcock, Scheurer & Schlaffke, Electra | 11.97 | 18.07 |
| Burkburnett Production Oil Trust, Baltimore, Md. | 693.68 | 1,046.51 |
| Birk, C. E., and Kelley, C. L., Iowa Park | 160.76 | 226.65 |
| Barnes, J. B., Electra | 3,674.23 | 4,806.47 |
| Baker, James Blair, Jr., (C. F. Camp, trustees) Wichita Falls | 7,973.36 | 11,193.78 |
| Blair, James Blair, Jr., (C. F. Camp, trustee) Wichita Falls | 53,443.71 | 73,619.29 |
| Baath Oil Co., Olney | 99.00 | 144.54 |
| Bass & Dillard, Wichita Falls | 20,786.19 | 29,079.67 |
| Boller, C. W., Wichita Falls | 7,612.11 | 11,859.97 |
| Bullington, Lee, Pendleton & Bullington, Wichita Falls | 16,095.61 | 24,429.46 |
| British American Oil Producing Co., Wichita Falls | 8,699.32 | 13,333.00 |
| Bailey, Fannie, Wichita Falls | 1,222.40 | 1,879.96 |
| Beggs, Geo. Strip, Fort Worth | 2,734.96 | 4,853.35 |
| Bridwell Oil Co., Wichita Falls | 23,401.66 | 29,332.00 |
| Barnsdall Oil Co., Tulsa, Okla. | 41,248.35 | 54,001.71 |
| Bexata Oil Co., San Antonio | 1,538.62 | 1,784.02 |
| Bridwell & Mayfield, Wichita Falls | 8,013.50 | 13,072.77 |
| Brannon & Murray, Cisco | 3,726.45 | 5,599.24 |
| Bradstreet Co., The L. G., Fort Worth | 20,973.34 | 34,426.49 |
| Braden Co., The, Eastland | 2,516.20 | 4,632.62 |
| Bevering, A. H., et al, Henrietta | 1,786.41 | 2,432.62 |
| Brady Brothers, Minerva | 1,496.26 | 2,143.20 |
| Bowers Oil Co. (A Trust Assn.), Vernon | 22,764.49 | 19,897.60 |
| Bohner, C. J., Burkburnett | 5,826.20 | 8,363.33 |
| Barkley & Meadows, Fort Worth | 20,813.35 | 10,285.81 |
| Barkley & Meadows, Fort Worth (9-30-28) | 16,267.69 | 8,628.79 |
| Bruce, H. J., Wichita Falls | 2,614.92 | 4,079.27 |
| Breckenridge Gasoline Co., Toledo, Ohio | 83.55 | 197.47 |

C

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|---|---|---|
| Castlebury, S. A., Vernon | 411.77 | 560.01 |
| Conner, Son & Coughley, Gotebo | 15,426.77 | 24,357.68 |
| Curry, E. M., Rising Star | 1,151.63 | 1,828.74 |
| Cal Tex Oil Co., Spokane, Wash. | 408.66 | 416.83 |
| Crown Oil & Refining Co., Houston | 15,117.21 | 18,110.65 |
| Cunningham Production Co., Houston | 8,638.62 | 9,099.52 |
| Central Texas Refining Co., Brownwood | 6,623.33 | 10,197.67 |
| Crown Oil Corp., Brownwood | 1,787.77 | 2,308.08 |
| Coppock & Coleman, Iowa Park | 20,503.00 | 31,473.49 |
| Champlin Refining Co., Enid, Okla. | 36,688.84 | 28,015.70 |
| Clark, C. W., Wichita Falls | 75.56 | 106.54 |
| Chapman, E. L., trustee, Fort Worth | 1,497.08 | 2,331.70 |
| Crown Central Petroleum Corp., Houston | 52,049.36 | 52,049.36 |
| Cranfill & Reynolds, Cisco | 409,273.25 | 320,866.30 |
| Cornhusker Oil Co., Lincoln, Neb. | 2,152.01 | 2,152.01 |
| Columbia Petroleum Co., Mirando City | 9,662.00 | 9,662.00 |
| Consolidated Oil Co. of Texas, Wichita Falls | 81,752.27 | 113,294.96 |
| Cole Petroleum Co., Laredo | 46,371.05 | 46,371.05 |
| Chapman, P. P., estate, Waxahachie | 14,998.29 | 20,603.29 |
| Cockrell, McIlroy Oil Co., Inc., Amarillo | 27,585.01 | 28,627.12 |
| California Co., The, Colorado | 178,719.65 | 819,719.65 |
| Cosden & Co., Fort Worth | 489,396.24 | 419,090.46 |
| Cosden, J. S., Inc., Fort Worth | 6,663.42 | 9,295.47 |
| Carter, Roy L., Wichita Falls | 17,426.81 | 10,734.95 |
| Christie Brothers, Wichita Falls | 8,715.54 | 12,929.36 |
| Charter Oil Co., Brownwood | 42,008.76 | 70,440.45 |
| Conway Bros., Ranger | 2,218.01 | 3,655.82 |
| Collins, J. L., & Co., Corsicana | 4,469.03 | 4,791.33 |
| Cole, W. C., Wichita Falls | 2,071.50 | 3,138.97 |
| Craig & Lowrie, Pittsburgh, Pa. | 1,877.02 | 2,054.82 |
| Crabb & McNeel, San Angelo | 1,374.93 | 2,047.55 |
| Curtis, Jas. A., Wichita Falls | 2,224.08 | 3,466.33 |
| Chenault, W. L., Amarillo | 744.36 | 1,135.11 |
| Camp Oil & Gas Co., The, Wichita Falls | 964.93 | 1,437.81 |
| Cunningham, Bratcher & Pennell (Bonne Lease), Loving | 2,845.16 | 3,759.17 |
| Coffey & Schlaffke, Electra | 84.60 | 131.97 |
| Clark, R. R., Wichita Falls | 14,755.18 | 22,019.27 |
| Cable, J. H., Wichita Falls | 1,775.76 | 2,651.23 |
| Campbell & Wills, Burkburnett | 1,694.06 | 2,484.95 |
| Coffey & Graham, Wichita Falls | 327.52 | 520.28 |
| Chapman, O. H., Waxahachie | 1,329.56 | 2,227.04 |
| Caldwell, John W., Wichita Falls | 1,368.90 | 2,067.03 |
| Clara Oil Co., Wichita Falls | 426.38 | 638.15 |
| Chapman, P. A., Jr., Eastland | 654.48 | 931.63 |
| Conway Bros. and Gholson, Ranger | 319.68 | 469.57 |
| Carlin & Tobin, Ranger | 429.00 | 707.85 |
| Clarkson, William, Jr., Corsicana | 2,657.78 | 3,896.98 |
| Currie Oil Corp., Washington | 357.20 | 575.14 |
| Coffield & Hale, Rockdale | 2,721.02 | 3,727.80 |
| Central Oil Co., Cameron | 2,027.73 | 4,014.29 |
| Crenshaw, Albert, Wichita Falls | 4,638.80 | 6,547.89 |
| Cranfill Brothers Oil Co., Dallas | 192,717.21 | 72,362.95 |
| Crosscut Corp., The, Fort Worth | 1,609.42 | 1,907.28 |
| Clear Lake Oil Co., Rockdale | 1,390.34 | 1,960.34 |
| Caudle, Fifer, Rockdale | 340.00 | 510.00 |
| Clem Oil Co., Houston | 464.24 | 464.24 |
| Coyle-Concord Oil Co., San Antonio | 83,525.68 | 55,355.50 |
| Capitol Oil Co., Orange | 1,199.63 | 1,383.56 |
| Clay, J. D., Houston | 1,745.85 | 2,034.49 |
| Camel Oil Co., Pampa | 2,691.18 | 3,681.13 |
| Chestnut & Smith Corp., Tulsa | 9,727.15 | 14,822.45 |
| Carlin, W. W., Ranger | 623.00 | 878.43 |
| Cox, Edwin B., Ardmore | 2,329.41 | 3,094.41 |
| Cromwell, Carl G., Best | 9,956.96 | 6,542.36 |
| Cushing Refining & Gasoline Co., Cushing | 11,407.82 | 7,407.82 |
| Church, Weekley & Fields, Fort Worth | 41,970.67 | 27,280.93 |
| Carey, E. S., et al (E. S. Carey & Miller Drilling), Wichita Falls | 774.82 | 1,030.51 |
| Carey, E. S., et al (E. S. Carey, W. J. Morgareidge, W. B. Hamilton and N. H. Martin), Wichita Falls | 74.98 | 86.98 |
| Cunningham, E. J., et al, Coleman | 26,514.12 | 29,656.49 |
| Canary, S. C., et al, Tulsa, Okla. | 597.98 | 601.32 |
| Culbertson Brothers Co., Fort Worth | 950.15 | 1,545.68 |
| Cisco Oil Co., Tulsa, Okla. | 31,091.28 | 40,290.79 |
| Canyon Oil & Gas Co., The, Cross Plains | 1,800.72 | 2,894.79 |
| Coza Oil Co., Cisco | 347.96 | 570.32 |
| Cashdollar & Snyder, Brownwood | 257.78 | 317.04 |
| Caruthers Co., San Antonio | 1,892.25 | 2,056.70 |
| Cranfill Brothers Oil Co., Wichita Falls | 3,152.59 | 4,913.55 |
| Camel Oil Co., Pampa (9-30-28) | 2,638.95 | 3,090.57 |
| Carson, Usher, Laredo (9-30-28) | 637.73 | 656.86 |
| Caldwell, John W., Wichita Falls (9-30-28) | 1,611.60 | 2,399.21 |
| Culbertson Co., Wichita Falls (9-30-28) | 12,064.13 | 18,772.65 |
| Crude Production Corp., Wichita Falls (9-30-28) | 3,463.80 | 4,638.21 |
| Crude Production Corp., Wichita Falls (6-30-28) | 3,343.90 | 4,293.97 |
| Crude Production Corp., Wichita Falls (12-30-27) | 1,889.28 | 2,450.78 |
| Crude Production Corp., Wichita Falls (3-30-28) | 2,317.31 | 3,001.57 |
| Crude Production Corp., Wichita Falls (9-30-27) | 2,491.71 | 3,213.82 |
| Crude Production Corp., Wichita Falls (6-30-27) | 945.71 | 1,213.90 |
| Carson, Usher, Laredo | 2,303.64 | 2,464.89 |
| C.W.M.&F. Co., Wichita Falls | 1,652.02 | 2,446.12 |
| Continental Supply Co., St. Louis, Mo. | 571.19 | 728.98 |
| Cooper & Mishler, Wichita Falls | 3,491.59 | 4,453.76 |
| Continental Oil Co., Wichita Falls | 571,402.93 | 711,865.80 |
| Culberson Co., Wichita Falls | 10,874.02 | 17,482.98 |
| Cowling & Hoppes, Burkburnett | 444.60 | 634.30 |
| Cowling & Newell Oil Co., Burkburnett | 300.60 | 439.00 |

D

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|---|---|---|
| Derby Oil Co., Wichita, Kans. | 32,924.77 | 41,771.11 |
| Dull-Earles Texas Co., Albany | 7,219.34 | 10,806.00 |
| Dennis, J. S., Moran | 1,625.01 | 2,239.26 |
| Dalton, Jack, Oil Co., Fort Worth | 1,815.00 | 2,744.31 |
| Dixie Drilling Co., Fort Worth | 217.78 | 309.59 |
| Dalton Bell Oil Co., Mineral Wells | 530.00 | 773.80 |
| Diana Oil Co., Tulsa, Okla. | 506.88 | 714.70 |
| Dayton Oil Co., Dayton | 277.71 | 333.25 |
| Double Five Oil Co., The, Amarillo | 1,710.16 | 1,705.63 |
| Dunigan Brothers, Breckenridge | 966.70 | 926.50 |
| Derby, A. L., and Haines, E. A., Wichita | 10,537.96 | 11,411.33 |
| Douglas Oil Co., Tulsa, Okla. | 1,960.61 | 1,980.22 |
| Deering, John A., Houston | 5,261.37 | 6,747.07 |
| Deutser, B., trustee, Beaumont | 1,516.83 | 1,820.20 |
| Dunlop, Robert, Ponca City | 9,782.98 | 14,870.12 |
| Duquesne Oil Corp., Eastland | 481.40 | 770.91 |
| Dunigan Brothers, Breckenridge | 994.60 | 1,343.28 |
| Dallas Petroleum Co., Dallas | 440.10 | 714.76 |
| Developers Oil & Gas Co., Wichita Falls | 956.00 | 1,452.41 |
| Delmar Oil Co., Bartlesville, Okla. | 2,343.02 | 2,810.03 |
| Dillon-Glasscock Co., San Antonio | 554.40 | 569.76 |
| Davis, Caroline A., Somerset | 397.99 | 433.82 |
| Davis, W. F., Wichita Falls | 471.49 | 726.53 |
| Dalton Bell Oil Co., Mineral Wells (9-30-28) | 578.00 | 843.88 |
| Deering, John A., Houston (9-30-28) | 9,143.50 | 11,795.12 |
| Dunlop, Robert (9-30-28) | 924.21 | 1,367.83 |
| Dull-Earls Texas Co., Albany (9-30-28) | 416.70 | 560.00 |
| Dunigan & Wylie, Albany | 88.99 | 118.00 |
| Dale-Knotts Oil Co., Wichita Falls | 301.56 | 480.99 |

(Continued on Next Page)

| Name and address— | Barrels | Value |
|---|---|---|
| Dudley, G. S., Iowa Park | 1,271.42 | 2,046.92 |
| Dunaway, J. E., et al, Wichita Falls | 2,177.94 | 3,391.22 |
| Duncan, J. W., Wichita Falls | 1,412.00 | 2,061.52 |
| Dixon, Reeder & Cook, Wichita Falls | 880.82 | 1,336.54 |
| Dale & Crawford, Electra | 726.16 | 1,130.48 |
| Dominion Oil Co., Tulsa, Okla. | 1,344.53 | 1,886.52 |
| Douglas Brothers Oil Co., Electra | 2,926.59 | 4,637.36 |
| Douglas Production Co., Electra | 2,062.05 | 2,921.35 |
| Duke-Langford Oil Co., Wichita Falls | 11,557.78 | 11,557.78 |
| Derby, Haines & Williams, Wichita, Kans. | 6,264.70 | 5,188.56 |
| Davis, Beatrice H., admx., Tulsa, Okla. | 65.99 | 86.34 |
| Dixie Oil Co., Inc., Shreveport, La. | 105,742.13 | 68,879.60 |
| Dean Oil Co., Burkburnett | 453.89 | 549.20 |
| Dixon Creek Oil Co., Inc., Amarillo | 106,976.16 | 100,886.09 |
| Dorian, R. P., Wichita Falls | 11,460.88 | 16,120.00 |
| Danciger Oil & Refining Co. of Texas, Fort Worth | 78,833.26 | 105,329.25 |
| Devonian Oil Co., Tulsa, Okla. | 29,095.11 | 33,279.62 |
| Duffield & Howard Oil Co., Tulsa, Okla. | 968.01 | 1,169.51 |
| Dale Oil Corp., Wichita Falls | 25,554.98 | 41,199.02 |
| **E** | | |
| Ellison Oil Co., Rockdale | 66.44 | 90.52 |
| Erie Investments, Ltd., of Texas, Toronto, Canada | 545.00 | 713.95 |
| Easton, E. S., Wichita Falls | 1,652.89 | 2,522.26 |
| Engel, E. A., Albany | 477.98 | 679.16 |
| Elmo Oil Corp., Abilene | 314.10 | 419.31 |
| Electra Production Co., Inc., Electra | 1,107.92 | 1,673.12 |
| Ernest Oil Co., Rockdale | 457.71 | 646.02 |
| Eastland Oil Co., Fort Worth | 28,588.85 | 41,903.92 |
| Electra Gulf Oil Co., Electra | 690.85 | 917.64 |
| Eggers, J. E., trustee, San Antonio | 636.28 | 689.29 |
| East Batson Oil Co., Batson | 21,319.37 | 25,583.24 |
| Eureka Production Co., Tulsa, Okla. | 16,938.19 | 25,592.31 |
| Empire Gas & Fuel Co. (Me.), Bartlesville, Okla. | 251,288.87 | 294,410.04 |
| Eddy Oil Co., Beaumont | 1,657.16 | 1,981.02 |
| Engel, E. A., Albany (9-30-28) | 640.57 | 850.94 |
| Erickson, Selma E., Wichita Falls | 112.95 | 170.56 |
| Emrick (lease)—(J. C. Wallace), Minerva | 332.64 | 468.96 |
| **F** | | |
| Ferguson & Watson, Electra | 1,209.76 | 1,902.81 |
| Flynn, W. B., Beaumont | 4,111.74 | 5,051.84 |
| F.H.E. Oil Co., Sherman | 332,996.22 | 228,613.73 |
| Fresno Oil Co., Wichita Falls | 30,108.31 | 44,560.29 |
| Fisher, J. A., Wichita Falls | 1,385.72 | 2,180.57 |
| Four Oil Co., Wichita Falls | 1,972.92 | 2,870.51 |
| Finston, Mark, et al, Tulsa, Okla. | 553.81 | 771.06 |
| Ferguson, W. R., Wichita Falls | 523.53 | 799.93 |
| Falls Production Co., Wichita Falls | 7,121.65 | 10,718.41 |
| Fleming & Kimbell, Sherman | 5,048.57 | 4,137.61 |
| Farlyn Oil Co., Houston | 16,019.98 | 9,680.26 |
| Fuchs, Fritz, Taylor | 156.00 | 203.65 |
| Fogle Oil Co., Minerva | 1,613.00 | 2,188.00 |
| Farish & Irelan lease, Houston | 7,037.00 | 8,444.40 |
| Fountain Production Co., Saratoga | 2,197.69 | 2,635.23 |
| Fort Bend Oil Co., Houston | 4,551.54 | 5,308.69 |
| Fort Ring Oil & Gas Co., Fort Worth | 980.33 | 1,879.71 |
| Fox & Adams, Burkett | 14,720.07 | 17,937.77 |
| Frontier Oil Co., San Antonio | 10,583.57 | 13,411.06 |
| Freeman-Hampton Oil Corp. ("B" lease), Wichita Falls | 1,025.54 | 1,651.14 |
| Freeman-Hampton Oil Corp. ("A" lease), Wichita Falls | 4,376.20 | 7,759.74 |
| Franklin, Wirt, Ardmore, Okla. | 1,360.08 | 2,122.08 |
| Fain-McGaha Oil Corp., Wichita Falls | 641,715.91 | 917,290.62 |
| Frio Oil Co., San Antonio | 229.20 | 173.05 |
| **G** | | |
| Gillam, Logan Oil Co., Fort Worth | 2,760.39 | 2,546.85 |
| Gulf Production Co., Houston | 6,300,385.94 | 5,638,102.11 |
| Grayburg Oil Corp., San Antonio | 171,952.02 | 168,695.21 |
| Green Production Co., Fort Worth | 18,873.53 | 15,131.50 |
| Gwynn, P. F., Wichita Falls | 14,323.52 | 22,999.43 |
| Graham & Lesh, Cisco | 265.28 | 371.00 |
| Gilliland, C. W., Wichita Falls | 2,042.02 | 3,191.66 |
| Golden West Oil Co., San Antonio | 44,835.95 | 54,225.51 |
| Gates Oil Co. (Wyoming Corp.), Denver, Colo. | 7,787.92 | 7,670.47 |
| G.&K. Production Co., San Antonio | 1,413.44 | 1,644.47 |
| Group No. 1 Oil Corp., Big Lake | 408,516.76 | 501,005.38 |
| Godley Oil & Gas, Dallas | 36,869.19 | 34,089.93 |
| Gultex Production Co., Waxahachie | 2,638.08 | 4,247.09 |
| Grinshaw lease (F. A. Mann), Graham | 564.00 | 902.40 |
| Gordon Oil Co. of Texas, Logan, Ohio | 82.28 | 120.12 |
| Granite Oil & Gas Co., Ridgeway, Colo. | 777.64 | 1,228.39 |
| Grady, D., Electra | 337.12 | 630.38 |
| Grand Duke Producing Co., Muskogee, Okla. | 325.62 | 244.51 |
| Grayce Oil Co., Wichita Falls | 29,240.96 | 44,702.66 |
| Guarantee Oil Co., Electra | 136.74 | 213.00 |
| Glenridge Oil Corp., St. Louis, Mo. | 3,804.87 | 5,514.10 |
| Galvez Oil Corp., Tulsa, Okla. | 4,949.16 | 7,140.16 |
| Gardner Brothers & Collins, Wichita Falls | 1,326.28 | 1,876.10 |
| Gaither Production Co., Rockdale | 1,090.87 | 1,549.40 |
| Glass Bors, Rosebud | 775.96 | 988.16 |
| Goldeline Oil Corp., Oklahoma City, Okla. | 9,500.72 | 10,171.59 |
| Gopher Oil Co., Amarillo | 1,285.65 | 1,162.32 |
| Gwynn, P. F., agent, Wichita Falls | 1,657.26 | 2,588.25 |
| Gwynn-Boyd Drilling Co., Wichita Falls | 2,828.13 | 2,947.62 |
| Gladys Oil Co., Saratoga | 3,138.36 | 3,138.36 |
| Gilbert Co., Beaumont | 7,746.87 | 9,296.24 |
| Gardner, Collins & Dunnigan, Pampa | 2,178.59 | 2,808.47 |
| Gantz, L. A., Fort Worth | 2,933.99 | 4,577.04 |
| Gordon, Jr., & Sharp, Houston | 5,072.84 | 6,036.69 |
| Gordon, Jr., H. B., trustee, Houston | 14,210.90 | 16,937.47 |
| Gordon, Jr., & Sharp, Houston | 19,052.74 | 22,647.19 |
| Gholson, John M., Ranger | 10,620.51 | 16,335.56 |
| Gallagher & Lawson, Desdemona | 252.30 | 322.15 |
| Gates Oil Co., Ardmore, Okla. | 3,123.59 | 5,114.25 |
| Gilbert, J. E., Carbon | 535.00 | 535.00 |
| Gainesville Oil & Development Co., Gainesville | 1,179.48 | 1,179.48 |
| Godfrey, F. L., Enid, Okla. | 77.63 | 113.63 |
| Gwinnup, H. G., Fort Worth | 908.93 | 1,579.53 |
| Gohlke, F. H., Wichita Falls | 33.50 | 36.64 |
| Gilman & McMurry, Cisco | 7,980.39 | 13,495.17 |
| Gunn Production Co., Cross Plains | 1,597.00 | 2,194.41 |
| Gilman & Conway Brothers, Ranger | 5,423.11 | 9,144.41 |
| Gamscock Leasing Syndicate, San Antonio | 2,110.43 | 1,804.77 |
| Ginter Lange Oil Co., San Antonio | 1,636.70 | 2,058.57 |
| Ginter Jones Oil Co., San Antonio | 609.97 | 737.85 |
| Gates-Bacon-Lea, Wichita Falls | 7,503.42 | 10,597.54 |
| Gilliland, C. W., and associates, Wichita Falls | 27,858.94 | 43,689.77 |
| Grebin Syndicate (Alexander lease), Wichita Falls | 975.24 | 1,309.61 |
| Gardner, Wilson & McCaldin, Wichita Falls | 1,868.88 | 2,915.43 |
| Gulf Coast Oil Corp., Dallas | 4,164.14 | 4,596.97 |
| Gohlke, F. H., Wichita Falls (4-1-28 to 9-30-28) | 74.00 | 86.45 |
| Guthrie Coal & Ferguson, Wichita Falls | 706.99 | 999.98 |
| Golding & Cochran, Wichita Falls | 11,441.02 | 16,131.83 |
| Golding, Dudley S., Wichita Falls | 17,181.76 | 22,851.74 |
| **H** | | |
| Harris-Fisher Oil Co., Cisco (9-30-28) | 694.70 | 998.78 |
| Harris-Fisher Oil Co., Cisco | 769.82 | 1,126.12 |
| Howell, M. L., Lohn | 546.66 | 717.43 |
| Holloway, R. R., receiver, Brownwood | 882.65 | 1,306.32 |
| Hickok Producing & Developing Co., Toledo, Ohio | 788.46 | 1,100.27 |
| Hammond, Jake L., Ardmore, Okla. | 10,331.66 | 14,496.72 |
| Hallmack Oil Co., Dallas | 1,351.45 | 1,933.68 |
| H.B.J. Oil & Gas Trust, Baltimore, Md. | 2,359.62 | 3,847.81 |
| Houston Oil Co. of Texas et al, Houston | 93,409.77 | 96,937.97 |
| Humphreys Corp., Houston | 49,711.22 | 61,493.58 |
| Hyer, Fred, Fort Worth | 4,841.45 | 4,324.55 |
| Hamilton, Walter R., trustee, San Antonio | 4,440.27 | 6,124.84 |
| Hamilton & Martin, Wichita Falls | 2,782.36 | 4,090.07 |
| H-Y Oil Co., Inc., Fort Worth | 13,782.66 | 19,874.05 |
| Hughes, William K., trustee, St. Louis, Mo. | 960.71 | 1,333.66 |
| Hinson & Tidwell, Graham | 4,403.49 | 6,256.71 |
| Howard Petroleum Corp., Tulsa, Okla. | 768.01 | 935.06 |
| Howard, Duffield & Berlin, Tulsa, Okla. | 1,336.73 | 1,425.99 |
| Hamilton, W. L., Bridgetown | 405.84 | 657.95 |
| Hammon & Heyser, Wichita Falls | 18,890.93 | 30,677.27 |
| Hammon & Garrett, Wichita Falls | 40,436.45 | 65,648.43 |
| Hammon, Heyser & Garrett, Wichita Falls | 25,248.22 | 36,275.05 |
| Hammon, W. H., Wichita Falls | 18,007.50 | 29,892.75 |
| Hobbs, Henry, Wichita Falls | 4,989.83 | 7,654.49 |
| Hill, W. R., trustee, Burkburnett | 221.33 | 356.24 |
| Hobbs Oil Co., Tulsa, Okla. | 2,501.45 | 3,673.75 |
| Hemby, J. M., Electra | 745.45 | 1,154.62 |
| Houghland Producing Co., Dallas | 5,366.33 | 6,777.77 |
| Hyde, George, Houston | 6,047.79 | 7,979.00 |
| Hanlon Gasoline Co., Tulsa, Okla. | 1,481.31 | 1,883.31 |
| Home Oil & Gas Co., Inc., Albany | 2,316.36 | 3,123.10 |
| Home Oil & Gas Co., Fort Worth | 12,817.99 | 18,225.91 |
| Handrick, August, Moran | 166.00 | 194.22 |
| Holder, F. W., Breckenridge | 668.75 | 811.47 |
| Hopkins, S. A., Cisco | 451.39 | 591.32 |
| Homaokla Oil Co., Oklahoma City, Okla. | 5,171.98 | 7,512.33 |
| Hickey, T. J., et al, Corsicana | 59.84 | 85.91 |
| Hefley, McIntosh & Thomas, Cameron | 658.00 | 894.86 |
| Hardy, J. K., Oil Co., Mexia | 27,362.00 | 37,019.92 |
| Houston Production Co., Houston | 13,498.32 | 16,423.61 |
| Harrison Oil Co., Houston | 53,810.09 | 76,804.61 |
| Houston Gulf Gas Co., Houston | 10,883.18 | 10,883.18 |
| Hagy Co. (year 1928), Amarillo | 557.00 | 462.13 |
| Horn, T. W., Houston | 1,720.06 | 2,064.86 |
| Harvey, R. A., Houston | 1,152.00 | 1,384.32 |
| Hardy, J. M., & Co., Sour Lake | 748.55 | 998.61 |
| Hill & Dowell, Batson | 12,459.44 | 14,951.32 |
| Hankamer, Earl C., Sour Lake | 457.14 | 548.57 |
| Herrmann et al, Pampa | 153,962.89 | 210,424.01 |
| Houseman, D. H., & Co., Dallas | 26.56 | 38.53 |
| Hamilton, Robert, et al, Eastland | 240.00 | 336.00 |
| Hedrick-Camp Drilling Co., Wichita Falls | 3,949.66 | 4,899.55 |
| Hardy, J. M., & Co., Inc., Breckenridge | 232.61 | 362.81 |
| Hyde Producing Co., Houston | 4,305.07 | 5,166.08 |
| Hitchman & Howard, Inc., San Antonio | 2,630.67 | 3,251.06 |
| Helvetia Oil Co., San Antonio | 13,830.89 | 15,373.33 |
| Hammond, J. G., Fort Worth | 201.08 | 306.03 |
| Hart Oil Corp., Fort Worth | 367.97 | 551.95 |
| Hueco-Ranger Oil Co., El Paso (Sept. 30, 1928) | 399.67 | 559.53 |
| River Bed Lease of A. L. Hawse, Fort Worth | 57,269.08 | 36,754.90 |
| Hankamer, Earl, & Co., Sour Lake (Sept. 30, 1928) | 529.96 | 635.95 |
| Hughes, Charles, Eastland (Sept. 30, 1928) | 409.80 | 615.00 |
| Hobbs, Henry, Wichita Falls (9-1-27 to 10-1-28) | 21,339.89 | 30,844.22 |
| Hanover Co., Inc., Wichita Falls (years 1927 and 1928) | 26,524.12 | 36,173.12 |
| Hunter, T. F., Wichita Falls (7-1-23 to 12-31-28) | 220,213.84 | 366,786.57 |
| Hopkins, S. A., Moran | 672.06 | 726.52 |
| Hopkins, S. A., Moran (Sept. 30, 1928) | 554.44 | 726.52 |
| Humble Oil & Ref. Co., Houston | 3,383,655.48 | 3,631,126.31 |
| Harris & Simons, Tulsa, Okla. | 6,079.90 | 3,647.94 |
| Holmes & Huey, Whittenberg | 2,042.73 | 2,963.16 |
| Hughes, Charles, Eastland | 289.71 | 445.77 |
| Hardy Oil Co., Wichita Falls | 3,242.03 | 5,365.24 |
| Humphreys Brothers, Inc., Houston | 2,070.25 | 3,423.42 |
| Holbrook & Woods, Wichita Falls | 32,098.24 | 48,448.55 |
| Hull Oil Co., Beaumont | 5,823.18 | 6,984.42 |
| Henshaw Oil Corp., San Angelo | 50,012.23 | 50,772.54 |
| Hambleton, George, San Antonio | 479.06 | 571.76 |
| Hammond, L. P., Wichita Falls | 4,029.02 | 6,273.75 |
| Hoffman & Page, Eastland | 10,132.85 | 16,138.56 |
| Herbert Oil Co. of Texas, trustee, Fort Worth | 9,347.51 | 13,714.11 |
| **I** | | |
| Independent Oil & Gas Co., Tulsa, Okla. | 520,004.34 | 350,137.31 |
| Interocean Oil Co., Tulsa, Okla. | 6,978.75 | 11,562.90 |
| Infield Petroleum Co., Austin | 871.95 | 1,131.31 |
| Idaho Oil Co., San Antonio | 1,481.69 | 1,766.14 |
| Irick Oil Co., Waskom | 167.28 | 235.56 |
| Ilseng Production Co., Fort Worth | 641.91 | 928.35 |
| **J** | | |
| Jones, Hugh, Burkburnett | 2,126.88 | 2,937.31 |
| Jacob Oil & Gas Co., Graham | 362.02 | 537.74 |
| Justin Oil Corp. et al, Wichita Falls | 11,904.17 | 18,615.53 |
| Japhet Production Co., Houston | 6,100.56 | 5,681.51 |
| Jones, J. E., Wichita Falls | 1,456.97 | 2,313.49 |
| Jones, W. A., Minerva | 861.06 | 1,124.96 |
| Janellen Oil Co. (Inc. P. G. Walker), Tulsa, Okla. | 314.50 | 277.40 |
| Jones, Edwin M., El Dorado, Ark. | 17,394.12 | 24,307.25 |
| Jones, J. A., Moran | 400.36 | 636.49 |
| Judson Oil Co., Tulsa, Okla. | 8,240.64 | 13,086.66 |
| Jackson, T. H., Sipe Springs | 118.55 | 156.51 |
| James, Tom, Albany | 10,150.66 | 15,337.47 |
| Jonray Oil Co., San Antonio | 1,383.27 | 1,450.27 |
| Jacobs, I., Dallas (9-30-28) | 71.21 | 99.73 |
| Jackson Co., The, San Antonio | 1,301.95 | 1,834.91 |
| Jackson, J. S., trustee, Sour Lake | 4,473.30 | 5,367.96 |
| Johnson Brothers, San Antonio | 7,503.90 | 9,468.59 |
| Junior Oil Co., Houston | 1,746.61 | 3,053.89 |
| Jones, R. C., & Co., Inc., Cushing, Okla. | 123.20 | 64.69 |
| Julia Oil Co., Sour Lake | 3,935.70 | 4,722.85 |
| **K** | | |
| King Royalty Co., Wichita Falls | 55,503.73 | 84,373.59 |
| Keener Oil & Gas Co. of Texas, Tulsa, Okla. | 4,875.28 | 6,971.79 |
| Killam, O. W., Laredo | 87,828.57 | 87,828.57 |
| Knotts, F. F., Wichita Falls | 488.58 | 743.87 |
| Kirk & Evans, Gorman | 3,336.03 | 4,804.11 |
| Kershaw, L. R., Muskogee, Okla. | 1,349.81 | 977.40 |
| Kirby Petroleum Co., Houston | 23,695.30 | 17,288.66 |
| Kingwood Oil Co., Okmulgee, Okla. | 430.32 | 639.00 |
| Keystone Production Co., Fort Worth | 3,595.35 | 5,623.12 |
| Keck Investment Co., Los Angeles, Calif. | 3,037.00 | 1,822.20 |
| King & Daniel, Wichita Falls | 7,458.01 | 11,811.71 |
| Koenig, Max W., San Antonio | 21,596.56 | 21,596.56 |
| Kate Bell Oil Co., The, Dallas | 1,125.64 | 1,731.74 |
| Kaufman, L., San Antonio | 417.42 | 451.66 |
| Kokomo Petroleum Co., Gorman | 554.00 | 817.71 |
| Kewanee Oil & Gas Co., The, Titusville, Pa. | 104,430.69 | 148,513.13 |
| King, Anna B., Muskogee, Okla. | 449.97 | 292.53 |
| Kuhlemeier & Kleiner Oil Co., Cisco | 961.53 | 1,443.35 |
| Kone Production Co., San Antonio | 56,178.47 | 94,276.00 |
| Kavanaugh Petroleum Co., Houston | 2,948.38 | 4,016.29 |
| Keller, E., Iowa Park | 666.38 | 1,066.51 |
| Keen & Wolf Oil Co., Shreveport, La. | 19,103.36 | 22,924.05 |
| Kent-Middleton Refining Co., Corsicana | 13,027.76 | 18,155.23 |
| Kent, G. C., Corsicana | 23,988.13 | 34,499.07 |
| Kleinfelder, B. F., Breckenridge | 523.00 | 754.07 |
| Kahle, Gracey & Diver, Bridgeport, Ill. | 5,145.81 | 3,087.51 |
| Kurz Oil Co., Somerset | 503.31 | 494.10 |
| Kimmell & Wooster, Wichita Falls | 1,189.57 | 1,426.25 |
| Kerr, T. P., Corsicana | 518.11 | 742.67 |
| Kimmell-Bostic, Burkburnett | 1,648.94 | 2,433.34 |
| Keller, J. E., Iowa Park (9-30-28) | 1,440.88 | 2,227.31 |
| Kimmell & Bostic, Burkburnett (9-30-28) | 2,107.69 | 3,077.21 |
| Klemcke, George, trustee, Von Ormy | 1,835.06 | 1,835.06 |
| Kishi, K., Terry | 537.73 | 645.29 |
| Kistler, Frank E., & Co., Denver, Colo. | 5,817.55 | 4,946.95 |
| Kemrow Co., Wooster, Ohio | 15,326.54 | 23,232.26 |
| Kolp, C. F., Electra | 9,748.38 | 14,218.53 |
| Kemp, Randel & Wilson, Electra | 45.48 | 64.32 |
| Kay, A. W., receiver (Jones et al), Graham (9-30-28) | 1,696.01 | 2,499.27 |
| Kay, A. W., receiver (Jones et al), Graham | 1,418.39 | 2,085.64 |
| Kleiner, Charles H., Cisco | 18,820.91 | 24,998.10 |
| Kingery, F. A., trustee, Amarillo | 9,836.31 | 8,857.37 |
| **L** | | |
| Lackey, J. L., receiver, Stinnett | 20,823.71 | 16,194.77 |
| Lubell, Samuel L., et al, Tulsa, Okla. | 16,577.48 | 15,441.98 |
| Lewis Production Co., Pittsburgh, Pa. | 5,115.12 | 7,416.92 |
| Lowry Oil Corp., Wichita Falls | 6,425.91 | 9,859.65 |
| Lowry Oil Corp., Wichita Falls (3-31-28) | 2,676.56 | 3,788.25 |
| Lawson, Eugene B., Tulsa, Okla. | 72,062.80 | 102,921.57 |
| Lomax, Thornton, Jr., Wichita Falls | 3,029.52 | 4,837.35 |
| Langford, W. S., Wichita Falls | 1,050.69 | 1,518.99 |
| Lain Oil Co., San Antonio | 1,352.62 | 1,564.17 |
| Lee & Simon, Cisco | 201.44 | 277.98 |
| Lynch, John D., trustee, Sioux Falls, S. D. (6-30-28) | 2,238.86 | 3,258.05 |
| Lynch, John D., trustee, Sioux Falls, S. D. (9-30-28) | 2,166.31 | 3,154.49 |
| Laredo Oil Co., Laredo | 1,446.81 | 1,446.81 |
| Lee, Homer, Wichita Falls | 1,512.99 | 2,398.56 |
| Lockhart & Co., Los Angeles, Cal. | 33,691.73 | 28,406.67 |
| Lytle, C. F., Mexia | 9,865.96 | 13,417.56 |
| Lytle Oil Association, Lytle | 256.05 | 246.79 |
| Lynch, John D., trustee, Sioux Falls, S. D. | 2,223.96 | 3,222.95 |
| Little, William, Breckenridge | 313.02 | 422.58 |
| Leonard Oil Co., Somerset | 218.63 | 247.75 |

(Continued on Page 169)

## CANADIAN FIELDS

(Continued from Page 61)

Stewart, W. H. Malcolm, C. V. Cummings, Capt. J. W. Troup. The company owns practically all the surface rights as well as oil rights on some 200 acres in the south end of the field.

Home's No. 1 materially extends the proven area in the deep lime, being the first test in the south end of the field to get crude naphtha production. It is about 5 miles south and a little east of Royalite's No. 4, and occupies about the same relative position near the crest of the anticline. Some 4 miles north of Royalite's No. 4, Foothills Oil & Gas Co.'s No. 1, in SW, Section 26-20-3w5, last year got production in the deep lime; and the logs indicate the structure is continuous for the entire distance of nearly 9 miles. With its large wet gas production, Home's No. 1 provides a further gas reserve for the city of Calgary.

The well has so far shown no indications of the freezing and bridging which in the central portion of the field have intermittently cut off some of the crude naphtha producers. Following the first rush of gas, the diamond drill tools were successfully removed from the hole.

### To Drill Six Tests

It is understood that the arrangement between Home Oil Co. and Imperial Oil, Ltd., calls for the drilling by Imperial of at least six tests. Home's No. 2, LSD 14, Section 20-19-2w5, which has been making a small light crude production from the Fernie shale horizon, will be deepened to the lime; the hole is at 5,200 feet and the drillers are rigging up with standard tools to carry the hole into the lime, after which the diamond drill will be used. Home's No. 3, same LSD, is drilling at 4,444 feet after recovering lost tools, and has a gas production estimated 2,000,000 feet a day. Home's No. 4, located north of No. 2 in the same section, is drilling at 1,772 feet. Derrick is reported up for No. 5 in the same section, and location is being spotted for No. 6.

Royalite Oil Co.'s No. 15, LSD 1, Section 12-20-3w5, offsetting McLeod Oil Co.'s No. 1, has encountered a second flow of light crude, and is reported flowing around 300 bbls. a day under gas pressure. Production was met in the lower Kootenay. The only previous instance of a commercial production of light crude from this horizon was the old southern Alberta flowing well (now Dalhousie's No. 1) which for a considerable time made up to 60 bbls. a day. A previous production of light crude met in Royalite's No. 15 at 3,003 feet tested 75 bbls. a day.

### Okalta Operations

Okalta Oils' No. 1, LSD 1, Section 1-20-3w5, which came in last November in the deep lime and for a while produced 600 bbls. a day, is rigging up with diamond drill to clean out the hole and restore production. The production has been frozen off for some weeks. Special drill rods of a new type, with a softer steel for the pins, have been secured for this work, owing to trouble experienced with the rods in drilling McLeod's No. 3. Okalta's No. 2, LSD 8, Section 1-20-3w5, is reported pumping 60 bbls. a day of light crude. Okalta's No. 3 LSD 9, same section, is straightening hole at around 2,535 feet.

McLeod Oil Co.'s No. 1, LSD 16, Section 1-20-3w5, which came back into production recently after a bridge of ice and carbon was punctured, is reported making 65 bbls. a day from the deep lime. McLeod's No. 4, same LSD, is drilling at 4,570 feet. At this depth it is 840 feet below the top of the deep lime, the formation at this point being about 45 per cent limestone. It is reported that the company intends to drill 1,500 feet in the lime if necessary for a thorough test. McLeod's No. 4 had a wet gas production in the upper part of the lime, which later petered out. McLeod's No. 2, same LSD, is making from 12 to 15 bbls. a day from the lime. McLeod's No. 3, same LSD, is rigging up with cable tools, following the return of the diamond drill to Okalta Oils' No. 1, and will resume fishing at 4,871 feet, with drill rods and a bit in the hole.

Regent Oil Co.'s No. 1, LSD 16, Section 1-20-3w5, is drilling in the deep lime at 3,860 feet. The well has been flowing by heads, but has been fitted with a control head and is reported saving between 30 and 40 bbls. a day while drilling. Gas production is increasing and a separator has been connected.

Calmont Oils' No. 1, LSD 2, Section 1-20-3w5, is reported to show increased gas production, and to flow by heads once or twice a day, with a recovery each time between 8 and 12 bbls. The well has been shut down pending the arrival of a shooter from Montana. It is in the deep lime at 5,650 feet.

Spooner Oils' No. 2, Section 24-20-3w5, is diamond drilling at 5,090 feet. Spooner's No. 1, LSD 12, Section 13-20-3w5, is reported making around 55 bbls. a day from the deep lime.

### New McDougall-Segur

British Dominion Oil Development Corp.'s No. 2, LSD 6, Section 12-20-3w5, has resumed drilling on top of the New McDougall-Segur sand at 3,550 feet, after bailing about 200 bbls. of light crude from the first sand, where production is estimated at 25 bbls. a day. Larger production is looked for in the lower sand.

United Oils' No. 2, LSD 2, Section 24-20-3w5, caught fire when a spurt of gas from the Dalhousie sand ignited, destroying the derrick. The test was about 40 to 50 feet in the sand at 5,380-foot depth. Work has been started on a new derrick, and a new engine ordered. The test is expected to resume drilling by the end of February. The hole has about 1,000 feet of oil, and is making some gas.

### Oppose Boilers Act

Oil operators in the Turner Valley Field are making strong representations to the Alberta provincial government in opposition to the new boilers act, which it is claimed would materially interfere with drilling operations.

A gas explosion in the measuring house of the Canadian Western Natural Gas, Light, Heat & Power Co., in the Turner Valley Field, resulted in injuries, mostly severe burns, to George Robinson and Ed Coleman, foremen, and Joseph Wise and Albert Flower, measuring men. Only slight damage was done to the premises.

### Wainwright Field

In the Wainwright Field, Wainwell Oils' No. 2, LSD 15, Section 36-44-7w4, has set casing on top of the oil sand at 2,038 feet. The sand was cored 6½ feet without the bottom of the horizon being reached, and it is expected will yield commercial production. It is reported No. 2 reveals different conditions from any yet encountered in the Wainwright Field. Wainwell Oils' No. 3, LSD 9, Section 36-33-7w4, is on the pump and is estimated around 100 bbls.

## CALIFORNIA FIELDS

(Continued from Page 64)

by completing its No. 1 Community a few days ago doing 1,490 bbls. daily from 5,910 feet. This well, incidentally, will be augmented by No. 2 Community in the near future as the latter is standing cemented on top of the pay at the present time.

### Ventura Avenue

The Shell Oil Co. successfully completed No. 25 Taylor, a new well in the Ventura Avenue Field during the early part of the past week and incidentally increased its daily production 1,942 bbls. of clean 30.1 gravity oil. This new acquisition, which was carried down to 6,403 feet and finished with a 6⅝-inch oil string, is flowing under a pressure of 200 pounds on tubing and 1,190 pounds on the casing. Although there is no general attempt being made to stimulate development work in the Ventura Avenue Field, the output of this district may be substantially higher during the latter part of the current year. The reason for this anticipated increase is attributed to the increasing refinery requirements of crude oil by the Shell Oil Co. This concern, which opened up the prolific Long Beach Field in Los Angeles Basin, has been relying to a great extent on Signal Hill for a large portion of its current demands. Long Beach, however, is definitely headed for lower levels and the Shell's production, in common with that of other operators, must of necessity show a consistent decline. The Shell will therefore be obliged to supplant this production with crude oil from some other area. The company's several leases at Santa Fe Springs are not any too favorably located with respect to structure and while several fairly satisfactory completions have been finished the production from this source will be rather insignificant and of a temporary nature.

Lawndale may augment the Shell's production to some extent in the near future but the output of this field is still problematical. The Shell holds some very favorably located acreage in the Inglewood Field of Los Angeles Basin but this will probably be allowed to remain in status quo as any resumption of drilling in this area would be very disastrous at the present time as it would precipitate a competitive drilling campaign and result in the development of substantial production. Ventura Avenue therefore looks ripe for additional drilling as operations in this field can be easily regulated. The Shell recently started the construction of four new derricks at Ventura Avenue and these wells will probably be spudded in soon.

### Kettleman Hills

Drilling operations in the Kettleman Hills Field of Kings County have become more or less of an accepted fact and it will probably be several months before anything of importance develops in this area because of the extreme depth at which production is secured. General Petroleum is redrilling its No. 2 Oschner, which has been hung up for the past several months with mechanical trouble at 6,766 feet but the outcome of the work is still in doubt. This well is favorably located with respect to structure and can be expected to result in commercial production if the hole can be successfully cleaned of junk resulting from the loss of several fish and drilling resumed. The deepest well in this field, with the exception of No. 2 Oschner, is the Standard Oil Co.'s No. 81 in Section 11-22-17 at 3,770 feet, although No. 2 Elliott of the Milham Exploration Co. and George F. Getty's No. 1 Armstrong are not far behind. The Associated re-entered the Kettleman Hills Field by staking location for a new well in Section 34-22-18, and an early spur is anticipated. The Texas Company's new absorption plant in this field has been in active operation for the past few weeks and it is handling 36,000,000 feet of natural gas daily with ease. This large amount of gas is coming from the Milham Exploration Co.'s discovery, No. 1 Elliott, which is also tanking a little better than 4,000 bbls. of 60.6 gravity oil with clocklike regularity every 24 hours. The discovery well in this field, while it is showing a very unfavorable gas-oil ratio, will not be disturbed in an effort to correct this condition as the extreme pressure renders any undertaking of this kind extremely hazardous. The Texas Company's new gasoline plant cost approximately $500,000 and is manned by a crew of 15 experienced operators. Present daily production of natural gasoline approximates 40,000 gallons.

### Midway-Sunset

The possibility of developing commercial production in the new deep zone recently encountered by the Union Oil Co. in the Midway-Sunset Field of Kern County is no nearer a reality than it was several weeks ago although the Standard has cored a slight showing in its No. 1 Mascot at 3,258 feet. The Union's No. 1 Western Petroleum, which first focused the attention of operators on this area several months ago, is drilling ahead in a brown shale at 3,615 feet and while it may ultimately result in production its present status is rather indefinite. The Shell recently spudded in a new well on the Perris property in Section 15-32-23, north of the Union's discovery and had already passed the 1,200-foot level, the present formation being a hard sand. The North American Consolidated failed to find the oil sand in Section 16-32-23, just west of the Perris property, notwithstanding that the bit was carried down to 4,147 feet. The Cypress Petroleum is drilling ahead at 3,510 feet in its projected deep-zone completion in Section 22-32-23 but the well log fails to show anything resembling the anticipated Union sand, which was encountered in Section 26, less than a mile southeast.

## LOUISIANA-ARKANSAS

(Continued from Page 56)

sand, total depth 1,540 feet. Five gas wells, four of them in the Monroe district, were completed during the week. Amalgamated Carbon Co.'s No. 3 Fairly, Section 53-20-4, Morehouse Parish, gauged 8,177,000 feet, total depth 2,183 feet. In Ouachita Parish, Ouachita Natural Gas Co.'s No. 5 Lieber, Section 4-19-4, made 9,000,000 feet, total depth 2,134 feet; Palmer Corp.'s No. 5 fee, Section 24-19-4, made 1,000,000 feet, total depth 2,220 feet and United Carbon Co.'s No. 1 Nichols, Section 6-20-3, Union Parish, made 600,000 feet, total depth 2,141, Ouachita Natural Gas Co.'s No. 5 Pardue, Section 5-15-6, Richland Parish, gauged 39,420,000 feet, total depth 2,437 feet.

### Production Decline

Stationary at 112,985 bbls. for the two weeks preceding, daily average runs from the field resumed their steady decline during the week just closed, reporting an average shipment of 111,194 bbls., a decline of 1,791. Louisiana runs averaged 35,084 bbls., a decline of 1,061, and Arkansas 76,110, a decline of 730. Caddo light, Deoto-Red River and Champagnolle dropped 100 bbls. each and Cotton Valley shipments were 126 bbls. under last week's movement. Daily average runs from the field were:

**Louisiana**

| | Bbls. |
|---|---|
| Caddo light | 8,730 |
| Caddo eavy | 2,820 |
| Homer | 3,390 |
| Haynesville | 5,500 |
| DeSoto-Red River | 3,950 |
| Elm Grove | 585 |
| Bellevue | 725 |
| Cotton Valley | 2,874 |
| Urania | 5,820 |
| Pleasant Hill | 470 |
| Sarepta-Cartesville | 220 |
| Total | 35,084 |

**Arkansas**

| | |
|---|---|
| El Dorado | 4,605 |
| Smackover light | 6,260 |
| Smackover heavy | 51,050 |
| Stephens | 1,010 |
| Nevada County | 1,440 |
| Lisbon | 1,480 |
| Champagnolle | 10,165 |
| Bradley | 100 |
| Total | 76,110 |
| Both states | 111,194 |
| Last week | 112,985 |
| Decrease | 1,791 |

### NORTH LOUISIANA

#### Caddo Parish

Greenwood—Eastern Carbon Co. made location 660 feet south and 815 feet east of NW cor. Section 8-17-16 for No. 4 Bryson; Nos. 1, 2 and 3 were drilled by Owl Oil Co. in 1926. Loraine Syndicate tested 250,000 feet of gas at 2,817 feet in No. 1-D Bryson, Section 18-17-16, and is drilling deeper.

Lewis—Snake Creek Oil Co.'s No. 1 Levee Board, Section 9-21-16, is drilling at 1,600 feet.

Oil City—Magnolia Petroleum Co. is drilling at 200 feet on No. 18 Doan-Thigpen in the SE cor. SW SE Section 6-20-15. Simplex Oil Co.'s No. 7 Youree—Randolph, Section 13-20-15, was dry at 2,272 feet, had salt water at 2,326 feet and is temporarily abandoned.

Pine Island—C. H. French is waiting on standard rig to pump No. 4 Muslow, Section 31-21-15, with 500 feet of oil in the hole, total depth 1,689.

#### Claiborne Parish

Haynesville—Smitherman & McDonald are drilling lime, shale and shell at 4,640 feet on No. 1 Miller, Section 17-23-8.

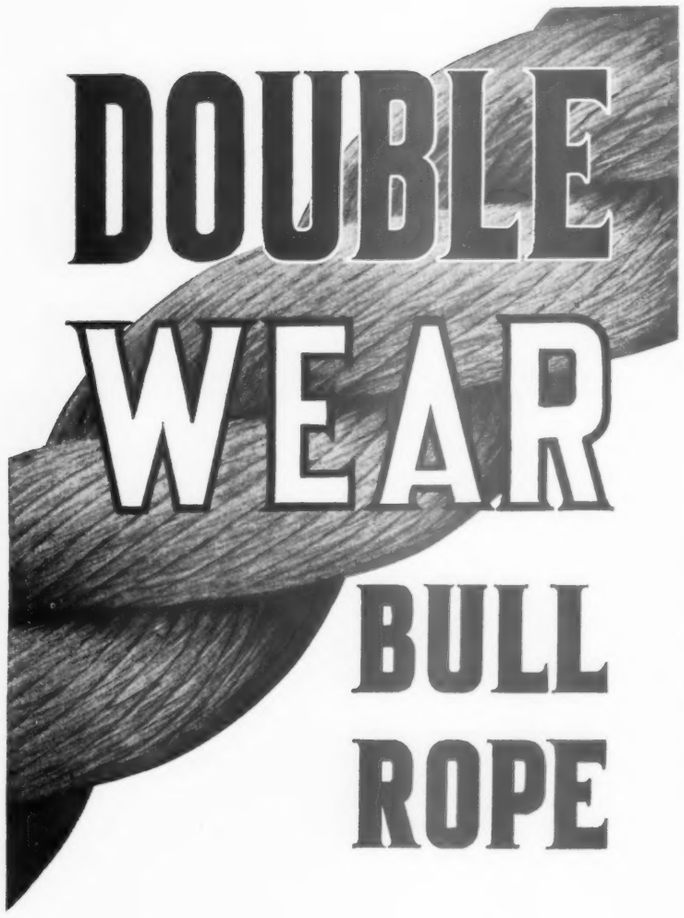
#### LaSalle Parish

Little Creek—H. L. Hunt is coring No. 5 Urania, Section 2-9-1e, at 1,333 feet after a gas blow out at 1,271 feet.

Urania—Ramdall and others' No. 4 Urania, Section 1-10-1e, set 40 feet of 10-inch and is drilling at 300 feet.

#### Monroe District

Morehouse Parish—Natural Gas Producing Co. of Louisiana set 12-inch at 175 feet and 8-inch at 911 feet on No. 23 Crossett, Section 26-21-4, and No. 14 Tensas, Section 4-22-4, is drilling at 765 feet. Southern Carbon Co.'s No. 52 fee, Section 15-20-4, is drilling at 2,125 feet

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and No. 8 Tensas, Section 2-20-4, is drilling at 2,172 feet. Stovall Drilling Co. cemented 6-inch at 2,096 feet on No. 2 Etheridge, Section 22-20-4.

Ouachita Parish—LaDel Oil Properties set 192 feet of 10-inch on No. 46 fee, Section 6-19-5. Magnolia Petroleum Co. tested 1,000,000 feet of gas at 2,151 feet on No. 2 Morrison, Section 2-19-4; 2,000,000 feet at 2,190 feet and is drilling at 2,208; No. 1 United States, Section 18-19-5, cemented 6-inch at 2,100 feet and No. 2 United States is a location 660 feet north and east SW cor. SE Section 30-19-5. Ouachita Natural Gas Co.'s No. 1 Sandidge-Patton in Section 15-20-4, has rig up to drill. Peerless Carbon Co.'s No. 4 Moore, Section 26-20-4, also is a rig. Pipes & Mack are drilling No. 2 McGee, Section 10-18-4, at 2,030 feet and No. 2 Wright, Section 11-18-4, cemented 6-inch at 2,170 feet. Southern Carbon Co.'s No. 11 Fairbanks, Section 33-20-4, set 12-inch at 193 feet and 8-inch at 783 feet. United Carbon Co. set 12-inch at 189 feet and 8-inch at 856 feet on No. 1 Spade, Section 32-19-4.

Union Parish — Industrial Gas Co.'s No. 1 Hill, Section 9-20-3, set 8-inch at 907 feet and 6-inch at 2,085 feet. United Carbon Co.'s No. 1 Reed, Section 12-20-3, set 8-inch at 733 feet and is drilling at 1,430 feet.

**Richland Parish**

Carbon Gas Co. cemented 6-inch casing at 2,280 feet on No. 1 W. T. Sartor, Section 16-16-6. Community Oil & Gas Co. is drilling No. 1 Boise, Section 33-16-6, at 2,430 feet. Magnolia Petroleum Co. shot No. 2 J. Sartor, Section 16-16-6, at 2,400 feet without results and is waiting orders, total depth 2,633 feet. Northern Louisiana Natural Gas Co. has rig up to drill No. 1 Hemler, Section 22-16-6.

**Webster Parish**

Cotton Valley — Magnolia Petroleum Co. is drilling gummy shale at 3,916 feet on No. 4 Ira Cox, Section 23-21-10, and No. 6 Marshall, Section 21-21-10, is drilling at 1,916 feet; No. 1 McCook & Hibbler, Section 22-21-10, cemented 8⅛-inch casing at 4,405 feet.

Sarepta-Shongaloo — J. W. Clark is drilling No. 2 Mayfield, Section 20-23-9, at 1,500 feet. Magnolia Petroleum Co. cemented 8⅛-inch at 2,669 feet on No. 3 H. M. Branton, Section 6-22-9, and is drilling lime at 1,877 feet on No. 1 B. M. Cook, Section 2-22-11; No. 1 Denman, Section 1-22-11, is bailing salt water with a small show of oil from 7 feet of sand, total depth 2,710 feet. Nemours Corp. made location 2,050 feet south and 1,810 feet west NE cor. Section 1-22-10, for No. 1 W. D. Munn.

**ARKANSAS**

**Johnson County**

Arkansas Natural Gas Corp.'s No. 2 Bynum, Section 12-10-24, is drilling at 1,540 feet and No. 1 McPhearson, Section 10-10-24, at 1,970 feet.

**Nevada County**

Humble Oil & Refining Co.'s No. 2 Hain, Section 1-14-21, is drilling shale at 3,573 feet.

**Ouachita County**

Smackover—Gulf Refining Co. is arranging to deepen No. 8 Goodwin, Section 32-15-15, completed originally as a 300-bbl. pumper, total depth 2,372 feet. Simmis Oil Co.'s No. 11 Hildebrandt, Section 33-15-15, is drilling shale and gumbo at 2,870 feet.

**Union County**

El Dorado—Gulf Refining Co. is arranging for a drill stem test of sand from 3,461-66 feet in No. 1 Woodley, Section 6-18-14. Standard Oil Co. of Louisiana cemented 6-inch at 2,157 feet on No. 5 Burns, Section 31-17-15, and made location 200 feet north and west SE cor. SE NE Section 36-17-16, for No. 6 Goodwin.

Champagnolle — H. L. Hunt temporarily abandoned No. 6 J. D. Gregory, Section 15-17-14, at 3,401 feet. Lion Oil Refining Co. made location 225 feet south and east NW cor. SE SE Section 9-17-14, for No. 2 Kelly; No. 5 Rowland, Section 15-17-14, perforated casing from 2,742-55 feet, tested salt water and will whipstock at 2,700 feet, total depth 2,858 feet; No. 5 Union Sawmill, Section 7-17-13, is drilling red sand at 4,445 feet. Magnolia Petroleum Co. is waiting on standard rig to pump No. 2 Gregory, Section 15-17-14, with 2,100 feet of fluid, 2 per cent salt water, from 3 feet of sand, total depth 2,828 feet; No. 3 Alice Gregory in the same section tested 5,000,000 feet of gas with a show of oil in 7 feet of sand and cemented 8⅛-inch casing at 2,845 feet.

Ohio Oil Co. is drilling No. 1 Adams, Section 7-17-13, at 1,738 feet; No. 1 Raulston, Section 12-17-14, is drilling at 2,802 feet. Oilwell Corp.'s No. 1-D Perdue, Section 9-17-14, has derrick up and Rovenger Corp. is drilling No. 2-B Perdue, Section 9-17-14, at 2,625 feet.

**EAST TEXAS**

**Harrison County**

Eureka Natural Gas Co. is arranging to deepen No. 2 Timmons, formerly Tylong Oil & Gas Co., 1,950 feet west and 150 feet north SE cor. W. R. Anderson Survey. C. H. Lyons, deepening No. 2-A Bryson, from 1,940 feet, where it was completed by Howze and others, is drilling at 2,000 feet. Location is 230 feet north and 936 west SE cor. Joel Lipscomb Survey.

**Marion County**

Trimount Petroleum Co. set 63 feet of 10-inch casing on No. 1-A Mebane & Stiles, 500 feet west and 250 north SE cor. Mebane & Stiles 100-acre lease in the N. Gupton Survey.

**Panola County**

S. E. Davidson and others' No. 1 John in the W. H. Wooley Survey, shot formation at 2,009 feet, cleaned out, set liner and is bailing to retest after testing 500,000 feet of gas at that depth. Eureka Natural Gas Co. is sidetracking bit and collar lost at 2,670 feet in No. 1 Bicknell in the Elijah Williams Survey. No. 3 Gulley, 1,646 feet east and 2,02 feet south NW cor. James Matthews Survey, set 10-inch at 60 feet. S. H. Gardner and others' No. 4 Brumble in the B. C. Jordan Survey, reported dry and abandoned at 2,713 feet, perforated casing at 2,300 feet and is bailing to test. Magnolia Petroleum Co.'s No. 3 T. C. Adams is a derrick 550 feet south and 280 feet east NW cor. T. C. Adams lease in the James Mathews Survey; No. 15 Steele in the B. C. Jordan Survey is drilling hard packed sand at 1,865 feet. Natural Gas Producing Co. is drilling No. 5 Roquemore in the B. C. Jordan Survey at 2,400 feet. The Texas Company has rig up to drill No. 10-B T. C. Adams in the Isom Hatcher Survey.

## GULF COAST FIELDS

(Continued from Page 58)

mated 100 bbls. of fluid, some of which was oil and wash water. No. 2 Taylor is losing returns at 3,384 feet.

**Blue Ridge—Fort Bend County**

Telshaw and associates' No. 2 Blakely was swabbing to test a sand at a total depth of 2,760 feet as the week closed. It has 45 feet of 4½-inch liner set in the hole. South Texas Petroleum Co.'s No. 3 Lafferty, east side, which tested salt water at 3,248-55 feet, has pulled screen and is drilling deeper in sand at 3,363 feet. Gulf Production Co. has made location for No. 7 Invincible. On the south side, Humphreys Corp.'s No. 5 West-Schenck is drilling gumbo and hard lime at 4,008 feet. Moody Corp.'s No. 6 West-Schenck is drilling gumbo at 3,101 feet.

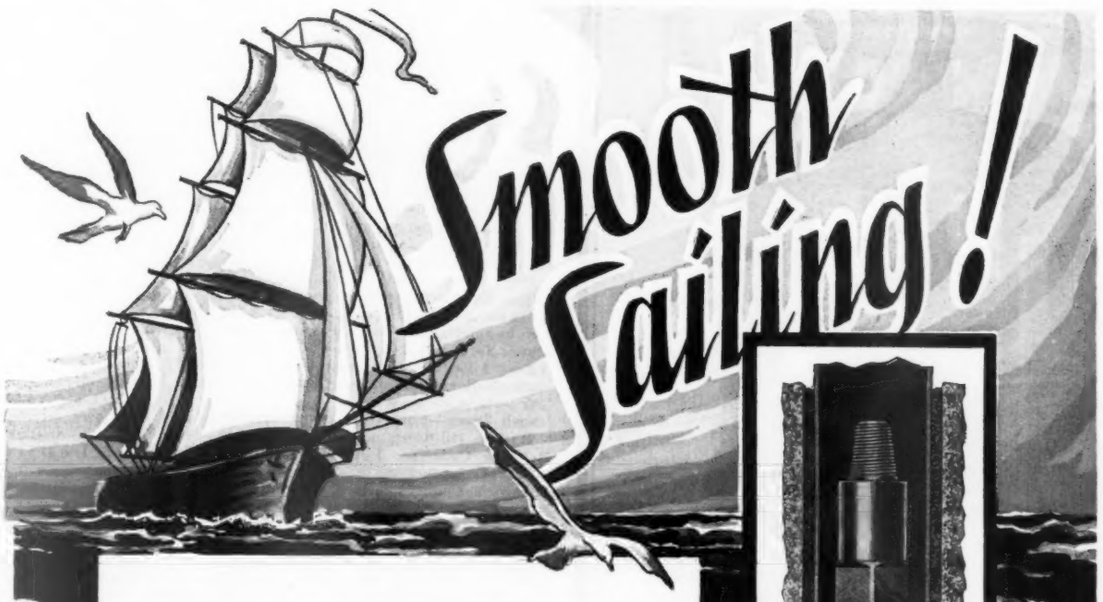
Navarro Oil Co. has made location on the west side for No. 6-B Robinson following the completion of No. 4-A Robinson the past week as a small producer. Blakely & Means' No. 2 Blakely is drilling sand and gravel at 240 feet.

**Big Creek—Fort Bend County**

The Texas Company's No. 4 Wheat is fishing a joint of 6⅝-inch drill stem with bottom of the hole at 3,643 feet. Navarro Oil Co. has started drilling in its No. 3 Davis and late in the week was in sand and gravel at 200 feet. Gulf Production Co.'s No. 51 Davis is drilling gumbo and lime at 3,650 feet. The company's No. 15 Davis, a workover, is drilling sand at 2,706 feet.

**Pierce Junction—Harris County**

Gulf Production Co.'s No. 2 Fitzsimmons-Hamman, east side, failed to make a well in a sandy shale at 4,535 feet and is perforating casing to test a third lower sand. No. 28 Taylor has spudded

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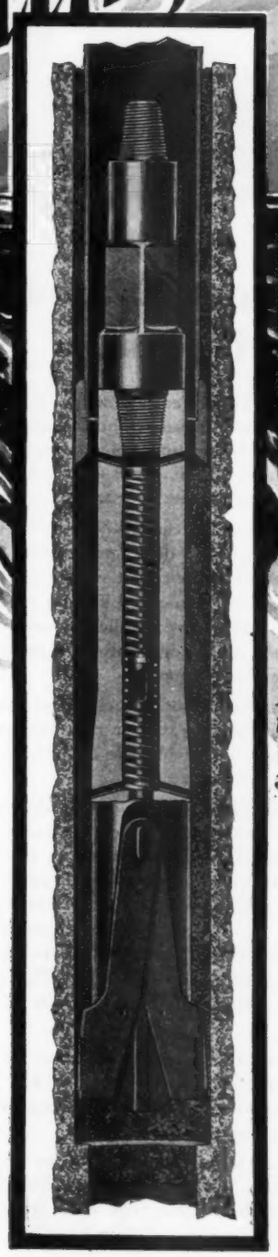

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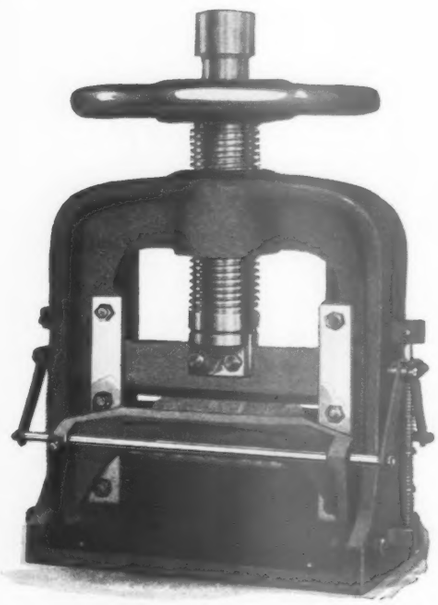

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in. Navarro Oil Co.'s No. 3-A Cain was washing Saturday and showing some oil and salt water from a sand at 4,011 feet, to which depth it was plugged from a total depth of 6,030 feet. Navarro Oil Co. and Texas Exploration Co.'s No. 4 Dooley is trying to clean hole to deepen. The latter operators' No. 14 Dooley is drilling rock at 3,525 feet. Navarro Oil Co. and Humble Oil & Refining Co.'s No. 2 Dooley is drilling gumbo and lime at 3,676 feet.

On the west side, Rio Bravo Oil Co.'s No. 12-A Settegast has spudded in. No. 13-A Settegast is drilling sand showing oil at 3,671 feet. Its offset, Reece Wolf's No. 1 Herman estate, is drilling gumbo at 920 feet. Rio Bravo Oil Co.'s No. 9-B Settegast is drilling gumbo at 3,420 feet in sidetracked hole. This is a former well being deepened. Moody Corp.'s No. 4-B Settegast, a wildcat on the far southwest side, is drilling gumbo and sand at 4,463 feet.

On the northeast, T. G. Shaw and Texas Exploration Co.'s No. 2-D Fitzsimmons is drilling sticky shale at 4,122 feet in sidetracked hole. The same operators' No. 3-E Fitzsimmons is sidetracking at 4,350 feet and their No. 2 Fitzsimmons-Barrow is drilling gumbo at 1,395 feet.

**Nash Dome—Fort Bend and Brazoria**

Rycade Oil Corp. and Humble Oil & Refining Co.'s No. 1 Wisdom, 800 feet south of production on the south side (Brazoria County) is in a sand at 5,435 feet. From 5,423-29 feet it cored a sand showing heavily of oil and this probably will be tested. With the completion of Rycade Oil Corp.'s No. 21 Wisdom as a 1,000-bbl. well and the abandonment of No. 24 Wisdom, the joint No. 1 is the only operation at present at Nash.

**Hardin County Domes**

Rio Bravo Oil Co.'s No. 106 B.B.B.&C., Saratoga, is in a sand at 2,063 feet and has cemented 6⅝-inch casing. E. W. Skinner's No. 2 Sissler, same field, is drilling gumbo at 900 feet. South Texas Petroleum Co.'s No. 1 Baker is spudding in. At Batson, Ada Belle Oil Co.'s No. 125 McGoldrick-Stateland is in a shallow sand at 720 feet. East Batson Oil Co.'s No. 18 Stateland is drilling sand at 701 feet. A location has been made at Batson for Paraffine Oil Co.'s No. 45 Knight. All are shallow tests. No operations are under way at Sour Lake.

**Goose Creek—Harris County**

Atlantic Oil Producing Co.'s No. 20 Gaillard (21 acres) a workover, is in an oil showing sand at 2,802 feet and is reaming to set casing. Russell Farrell's No. 5 Gillette, a former well, has reset strainer and late in the week was washing. Gulf Production Co.'s No. 15 Beaumont, also a former well, has rigged up to deepen. The latter company's No. 25 Ashell-Smith is rigged up. Humble Oil & Refining Co.'s No. 75 Simms-Smith, a wildcat north of the field, has cemented a string of 20-inch surface casing at 760 feet.

**Spindletop—Jefferson County**

Gulf Production Co.'s No. 17-A Marrs McLean is being rigged up to pump. It is in a sand at 5,401 feet. Unity Oil Co.'s No. 99 McFaddin is in a shallow sand showing oil at 1,001 feet and has set 6⅝-inch casing to test. Yount Lee Oil Co.'s No. 90 McFaddin is drilling sand and lime at 3,450 feet. No. 91 McFaddin is drilling lime at 4,200 feet. No. 93 McFaddin is in sand and lime at 3,112 feet. No. 94 McFaddin is in shale and lime at 2,605 feet and No. 95 McFaddin in gumbo at 1,491 feet. No. 4 Davis is in shale at 4,711 feet. No. 23 fee, which failed to flow after swabbing at 3,923 feet, is running tubing.

On the Gladys City tracts, Yount Lee Oil Co.'s No. 40 is drilling lime and shale at 3,941 feet. No. 74 is in shale and lime at 4,857 feet. No. 76 in sand at 4,404 feet, No. 79 in shale and lime at 2,785 feet, No. 80 in gumbo at 2,413 feet, No. 81 in sand and shale at 1,026 feet and No. 82 in sand and boulders at 725 feet.

**Hull—Liberty County**

Gulf Production Co.'s No. 92 Phoenix was put on the pump at 3,126 feet but pumped dry and probably will be deepened. No. 25 Morris-Phillips is drilling at 3,465 feet. Nos. 3 and 93 Phoenix, former wells, are rigging up to deepen. Mecom Oil Co.'s No. 10 Taylor is drilling rock at 1,107 feet. Republic Production Co.'s No. 25 Dolbear is shut down in sand and shale at 4,106 feet. No. 32 Dolbear is showing oil at 2,750 feet and is reaming to set. No. 37 Dolbear also is in a sandy shale formation showing oil at 2,829 feet.

**Liberty—Liberty County**

Brownie-Babbette Oil Co.'s No. 1 Turner in the north shallow sand area is drilling gumbo at 201 feet. Empire Gas & Fuel Co.'s No. 2 Goggan, east of No. 1 abandoned in salt recently, is rigged up. Liberty Petroleum Co.'s No. 2 Turner is shut down after being bailed dry at 1,512 feet. Painter Oil Co. has made location for No. 2 Turner. No. 1 Turner is standing at 700 feet.

South of this area in the pool most recently opened, Sun Oil Co.'s No. 35 Mitchell is drilling sandy shale at 983 feet. No. 36 Mitchell has been abandoned in salt at 1,285 feet. No. 39 Mitchell is drilling sand and shale at 1,070 feet and a derrick is up for No. 40. The Texas Company's No. 18 State is in a sand and shale showing oil at 1,637 feet and will test. No. 19 State is showing oil and gas at 2,170 feet.

Sun Oil Co.'s No. 38 Mitchell in the deep sand area on the north edge of the east flank is drilling gumbo at 3,183 feet. Yount Lee Oil Co.'s No. 15 Mitchell is in gumbo at 2,412 feet. A derrick is up for No. 16 Mitchell.

On the north side of the dome, Vacuum Oil Co.'s No. 1 Trinity River is showing oil in a sand at a total depth of 3,472 feet and has cemented 9⅝-inch casing. Its offset, The Texas Company's No. 3 Pickett, failed to find this showing and is drilling at 3,884 feet in sand and shale. The latter company has a location for No. 5 Green, the latter being 400 feet northeast of No. 1, the discovery well in that area.

**Orange—Orange County**

Gulf Production Co.'s No. 11 Peveto, a former well being deepened, drilled to 5,067 feet in shale but is delayed by a caving hole. Rex Petroleum Co.'s No. 14 Carbello, also a former well, is drilling hard sand at 3,222 feet. Sinclair Oil & Gas Co.'s No. 4 Granger is drilling gumbo and shale at 2,834 feet. Tillery Oil Co.'s No. 3 Tasco is pulling strainer after testing salt water at 3,527 feet and will drill deeper. All are former wells being deepened.

**High Island—Galveston County**

Gulf Production Co. has a rig up to deepen No. 2-A Smith and is cleaning hole. No. 8 Smith is drilling at 3,187 feet. McLean Oil Co.'s No. 11 Cade is preparing to sidetrack after drilling to below 3,550 feet. No. 1-A Cade drilled into salt at 2,300 feet and is waiting orders.

**SOUTH LOUISIANA**

**Jennings—Acadia Parish**

Gulf Refining Co.'s No. 36 Jennings-Clemont, a former well, is coring sand and shale at 3,906 feet. Jennings Petroleum Co.'s No. 2 Eunice-Crowley is drilling hard sand at 3,890 feet. E. F. Simms' No. 2 Cockrell is drilling hard sand at 3,168 feet. This operator's No. 1 Syndicate-Clemont is trying to sidetrack at 2,988 feet in an effort to drill back to the oil sand formerly tested at 3,872 feet. No. 2 Syndicate-Clemont also is trying to start a new hole. No. 1 Grace Von Schuler is drilling hard sand at 4,600 feet. All these tests are on the west side.

On the east side, Yount Lee Oil Co.'s No. 6 Housierre-Latrielle is in sand and shale at 5,905 feet. This company's No. 4 Crowley is drilling sand and shale at 4,007 feet.

**Lockport—Calcasieu Parish**

Vacuum Oil Co.'s No. 22-A Miller drilled under the same derrick as No. 22, which was completed as a producer in a deep sand, failed to make a shallow well and was abandoned in water sand at 1,313 feet. No. 20 Miller, recently completed as a small producer at 3,620 feet, is pulling screen to deepen. No. 13 Miller is trying to sidetrack. No. 29 Miller is an oil sand at 4,362 feet and waiting for cement to set to test. No. 24 Miller is a derrick. No. 4-A Farquhar is drilling gumbo at 4,967 feet. No. 1

Renshaw-Lemoin tested salt water in sand at 5,590-97 feet and is pulling casing to deepen.

Shell Petroleum Corp.'s No. 1 Miller, north of the Vacuum and Gulf Refining Co.'s joint operations at Lockport is drilling sand, shale and shell at 1,169 feet.

**Vinton—Calcasieu Parish**

Gulf Refining Co.'s No. 44 Star-Vinton is in a sand showing oil at 2,752 feet and is reaming to set. This is a former well deepened. Marrs McLean's No. 12 Gray, Vinton Petroleum Co.'s No. 1 Matilda Gray and No. 10 Vincent are standing at previously reported depths.

**Hackberry—Cameron Parish**

Ryeade Oil Corp.'s No. 1 Gulf Land, west side of the old Hackberry Dome, is waiting on a standard rig to pump. This well is in sand at a total depth of 5,345 feet where it headed at the rate of an estimated 50 bbls. of net oil daily for a time, the first oil on the west side of the dome. Ryeade Oil Corp. and Humble Oil & Refining Co.'s joint No. 1 Gulf Land is rigged up.

On the south side of the dome, where first production on the dome recently was opened, Cameron Oil Co. and Ryeade Oil Corp.'s No. 3 Duhon is drilling shale at 1,930 feet. Moon Oil Co.'s No. 2 Sonnier is rigged up. The latter company is composed of Sutton and associates, who recently completed No. 1 Sonnier for 800 bbls. daily. No. 2 is on the same 10-acre tract. Rex Petroleum Co. also has entered the field and is building derrick for No. 1 Vincent in the vicinity of the producer. Federal Petroleum Co.'s Nos. 1, 2 and 3 Knough, also on an offset tract, are rigging up. Sun Oil Co. has a rig up for No. 1 Vincent.

On the geophysical Hackberry Dome, several miles to the east, Calcasieu Oil Co.'s No. 13 Watkins is drilling hard shale at 3,727 feet. The latter's No. 5 Dorion is drilling sand and boulders at 2,203 feet. The Texas Company's No. 6-B Calcasieu Lake is rigging up.

**MISCELLANEOUS FIELDS**

**Texas**

Ryeade Oil Corp. and Humble Oil & Refining Co. have a rig up for No. 6-A Lountze at Markham, Matagorda County. South Texas Petroleum Co. has a rig up in the same field for No. 1 Trull. In West Columbia, Brazoria County, Gulf Production Co. is pulling strainer to deepen No. 3 Tom Hogg. The latter company's No. 18 Moore, Orchard, Fort Bend County, is in gumbo and lime at 2,993 feet and has set a string of 9⅝-inch casing.

**South Louisiana**

Yount Lee Oil Co.'s No. 4 Louisiana Petroleum Co., Anse La Butte, St. Martin Parish, is drilling sand and shale at 3,061 feet. Ryeade Oil Corp.'s No. 3 Atchafalaya, Bayou Bouillon, same parish, has plugged back to 4,080 feet to test after drilling into salt at 4,811 feet. The latter company's No. 6 Bouillon fee tested salt water at 2,887 feet and is pulling liner to deepen. No. 7 Bouillon fee is a derrick. No. 8 is at 1,018 feet where a string of surface casing has been run. No. 3 Louisiana State is drilling gumbo at 961 feet.

Gulf Refining Co.'s No. 11 United Land Co., Sorrento, Ascension Parish, drilled to 2,100 feet in sand but stuck the drill stem and will sidetrack. This is to be a flank test. Pure Oil Co.'s No. 7 Yount Lee Oil Co., Sweet Lake, Cameron Parish, has set 4½-inch line on lead seal at 4,394 feet and Saturday was bailing. No. 8 Yount Lee Oil Co. also had set pipe to test at 4,475 feet.

**MISCELLANEOUS WILDCATS**

**Texas**

Austin County—Flannigan & Mewis Drilling Co. has rigged up for No. 1 A. E. Mewis in the James P. Stevenson Survey, east of Bellville and west of the Brazoria Bend district.

Brazoria County—Humphreys Corp. has started drilling in its No. 1 Bryan on the Bryan Mound Dome in southern Brazoria County and Saturday was drilling below 300 feet. This is the first test on this dome in years. The test is in the C. Arcola Survey, on the west side. On the Allen Dome, same county, Shell Petroleum Corp.'s No. 3 Reece is drilling shale, lime and calcite at 4,548 feet. No. 5 Allen is in anhydrite at 4,921 feet. No. 4 Allen, a former small producer, is being rigged up to deepen from its present sand at 5,109 feet.

Empire Gas & Fuel Co.'s No. 2 Brock, Stratton Ridge, is drilling lime and shale at 3,348 feet.

Chambers County—Pure Oil Co.'s No. 2 Lost Lake, Lost Lake Dome, is drilling gumbo at 3,825 feet. This company's No. 1 Mays, same dome, is drilling sandy lime at 3,266 feet. Gulf Production Co.'s No. 1 Wilborn, Hankamer Dome prospect, is drilling at 4,631 feet.

Fort Bend County—South Texas Petroleum Co.'s No. 1 Hartfield, Needville, is drilling sand and shale at 5,607 feet. Gulf Production Co.'s No. 14 Wolf, Long Point, is in lime, shale and sand at 585 feet.

Harris County—Humble Oil & Refining Co.'s No. 1 Minnetex Mykawa, is waiting on 7-inch casing cement to set to test a sand and shale formation at 5,437 feet. It is not expected the test will make a well at that depth. This company's No. 5 Warren, Hockley, is drilling hard sand at 2,502 feet. Another wildcat was started in Harris County during the week, this being Little York Oil Co.'s No. 1 Davis in the H.&T.C. Survey in the Little York district. It is in Lot 2, Section 5, and Block 1 of the survey. South Texas Petroleum Co.'s No. 1 Hicks & Higbee, Alameda, is drilling tough gumbo at 3,811 feet.

Jackson County—The Texas Company's No. 1 Moore, D.&G.M. Survey, north of Enda, is drilling shale at 3,251 feet.

Jefferson County—The Texas Company's No. 1 Pipkin, Big Hill, is drilling shale and sand at 4,757 feet. Yount Lee Oil Co.'s No. 1 Nona Mills, Tyrell Park, is drilling sand at 1,986 feet. Gulf Production Co.'s No. 6-A Bordages, Fannette, is drilling sand and shale at 5,097 feet. The latter's No. 7 Bordages is rigged as is No. 11 Thomas. Shell Petroleum Corp. has made location several miles west of Fannette for No. 1 Heisig in the T.&N.O. Survey No. 86. Vacuum Oil Co.'s No. 1 Herbert-Broussard, location in the T.&N.O. Survey, is standing. Westbury Syndicate's No. 1 West, northeast of Westbury, is drilling gumbo at 2,754 feet. Bleakie Oil Co.'s No. 1 Tolliver, near Voth, Dyches Survey, is setting a string of casing at 1,557 feet.

Liberty County—Humble Oil & Refining Co. has derrick up for No. 4 Sterling, Moss Bluff. This is 300 feet east of No. 3, abandoned in salt at 3,329 feet. The Texas Company's No. 2 Davis, Davis Hill, is drilling sandstone at 1,908 feet. Union Exploration Co.'s No. 2 Esperson, Fisher Survey, is drilling gumbo at 3,312 feet. Republic Production Co. has made location for No. 1 Myslivec in the W. C. Moore Survey, near Hardin.

Matagorda County—Crossland and associates' No. 1 Murphy, Shepherds Mott, is drilling rock at 3,486 feet. Griffith and associates' No. 1 Culver, Citrus Grove, is drilling shale at 1,827 feet.

**South Louisiana**

Shell Petroleum Corp.'s No. 6 Watkins, Black Bayou, Cameron Parish, is drilling hard, gray sand at 3,102 feet. In the same district, Shell is building a derrick for No. 8, with No. 7 abandoned at 940 feet. The Texas Company is building a derrick for No. 3-A Calcasieu Lake, Cameron Parish, in the south end of Calcasieu Lake on the new geophysical dome bearing that name. Evangeline Oil Co. has abandoned its No. 1 Crowell-Spencer, Pine Prairie Dome, Evangeline Parish, in sandy lime at 4,768 feet.

The Texas Company's No. 3-A Vermillion Bay, Iberia Parish, is drilling rock at 4,225 feet. Jefferson Lake Oil Co.'s No. 1 Lake Peigneur, Jefferson Island, Iberia Parish, is reported drilling sulphur and lime at 165 feet. Shell Petroleum Corp.'s No. 3 Wilbert, White Castle, Iberville Parish, is drilling shale and sand at 3,847 feet. The Vacuum Oil Co.'s No. 1 DeVilbiss, Roanoke, Jefferson Davis Parish, is drilling water sand at 4,963 feet. Vacuum's No. 1 Earle, same dome, is drilling sand and gravel at 810 feet. Gulf Refining Co.'s No. 3 Kling, Loreauville, Iberia Parish, is drilling lime at 3,167 feet. This com-


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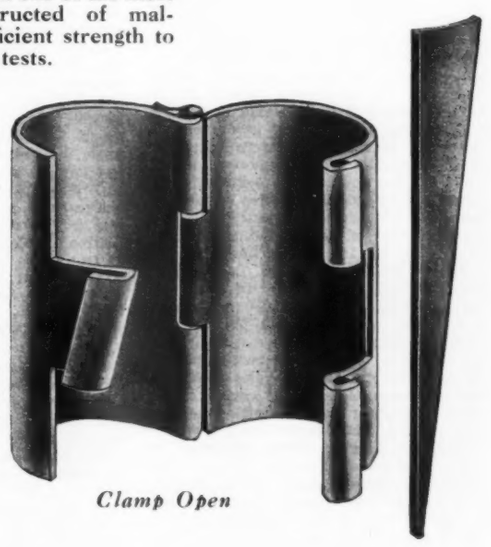

*Clamp Open*

# MILLER

***Combination Bailer & Pump Co.***

SAPULPA, OKLAHOMA

pany's No. 1 Moresi, same dome, is drilling at 501 feet.

Standard Oil Co. has a derrick up for No. 2 Wilbert, Bayou Blue Dome. It is drilling at 3,272 feet in sandy shale in its No. 1 Schwing, same dome. No. 3 Wilbert and No. 3 Schwing are standing as locations.

Gulf Refining Co. is rigged up and is spudding in on its No. 1 Morris & Rose, Spanish Pass Dome, Plaquemine Parish, southwest of Venice. In the same parish, The Texas Company has a derrick up for No. 1 Garden Island Bay, in the extreme southeastern tip of the State. The latter company also is moving in derrick material for tests on six other domes recently acquired from the Louisiana Land & Exploration Co. in the southern part of Terrebonne Parish. These are No. 1-A Timbolier Bay, No. 1-B Lake Pelto, No. 1 Lake Barre, No. 1-B Bay Coon Road, No. 1-B Four Isle Bayou and No. 1 Dog Lake Bayou.

## LA.-ARK. WILDCATS

(Continued from Page 56)

Wilson land in Section 25-15-18, Ouachita County. McDonald Brothers' No. 1 Wilson is slopping about 10 bbls. a day over the casing while waiting on standard rig to pump, and C. H. McDonald's No. 1 Wilson, just north of it, cored sand showing oil from 2,228-35 feet. The other well is producing from a total depth of 2,828 feet with the bottom in about 10 feet of sand. Flaucher and others' No. 1 Buck in Section 7-15-17, has rig up and will be drilling in a day or two.

Territory south of this well and in the northwest corner of Union County has been extremely active during the last few weeks and is now practically blocked solid by several of the larger companies and individuals. H. L. Hun has just completed 1,000 acres in Sections 1, 2, 3, 10, 11 and 12-16-18, on 10-year commercial leases, as are most of the other blocks though some of them call for deep tests. Sam Arrendale has made location on his block for a well in Section 18-18-17, on the Columbia County line. North of the McDonald wells Timberlake and others have assembled a block of 1,500 acres centering on Section 25-14-18, on which they are to drill a 3,200-foot test. Adjoining Louisiana Oil Refining Corp.'s Stephens block on the east A. L. Wesson, of Stephens, has blocked 1,500 acres centering on Section 12-15-19, on which he is obligated to drill before April 8. Thornton and others of El Dorado have a 120-acre lease in Section 4-17-13, 1½ miles east of production on the north edge of the eastern extension of Champagnolle and are reported to have made location for a 3,250-foot test. Leo Yount has blocked 5,000 acres on 10-year commercial leases in the extreme southeastern corner of Union County, Sections 10, 11, 14, 15, 16, 21 and 23-19-10.

Tharpe Drilling Co.'s No. 1 List, Section 25-17-15, El Dorado district, was abandoned this week at 3,050 feet where it had been waiting orders for the last three months. In the same district, Calgo Oil Co.'s No. 1 Primm in Section 25-18-15, possibly the deepest hole drilled in that particular locality, is coring below 4,275 feet after testing salt water in sand from 4,223-33 feet.

**Deepest Test in North Arkansas**

North Arkansas' deepest test is beginning to attract some notice, though it is out of the territory in which all but one or two of the companies operating in this division are interested. This is Arkansas Natural Gas Corp.'s No. 1 Parks in Section 26-8-24, Logan County, which was drilling at last report at 4,150 feet. Twelve to eighteen miles south of production in the Clarksville Field in Johnson County, it is several hundred feet deeper than the fourth gas sand in the latter and is understood to be a test for oil instead of gas having had only one small show of gas, at 1,335 feet. The company has a half-dozen gas wells in the field which are supplying a 10-inch line from Clarksville to Little Rock furnishing gas to these and a half dozen intervening communities.

Leasing activities in Mississippi and Alabama begin to look more and more like a drilling campaign this summer, the most favored and active localities being the Hatchitigbee anticline in southwestern Alabama, Jackson anticline and around Meridian in Mississippi. The Jackson anticline has been most vigorously played in recent weeks, practically all the big companies in this division and several that are not represented here having blocks ranging from 4,000 to 50,000 acres in Hinds, Rankin and Madison Counties. In the Meridian district, the latest development is a 40,000-acre block of the Lauderdale Oil & Gas Co. on which they plan to start a new well in the vicinity of Topton in the near future, and a 16,000-acre block in Lauderdale County by F. X. Gowan and others who have derrick up in Section 33-8-18, for No. 1 Hauser. The following is the latest revision of the field report on active wells in Mississippi.

**MISSISSIPPI**

Alcorn County—Alcorn Petroleum Co.'s No. 1 Matthews, Section 14-2n-7e, resuming drilling with cable tools, total depth 1,985 feet.

Chickasaw County—Hightower & Golson's No. 1 Davis set 8¼-inch at 1,032 feet and changing to cable tools to resume drilling, total depth 1,162 feet.

Claiborne County—Ben White and others' No. 1 Shannon, Section 36-10-4e, is drilling with rotary at 1,600 feet.

Hinds County—Edwards Oil Co.'s No. 4 Lewis, Section 36-15-5e, derrick; No. 3 last reported January 17 drilling at 1,280 feet. Hennese and others' No. 1 Riverside, Section 23-16-5, derrick. Reeder and others' No. 1 State, Section 25-6-1e, set 8-inch at 1,985 feet, shut down at 2,200 feet.

Humphreys County—R. E. Davidson and others (Bird & Steel) are building derrick in SE cor. NE, Section 24-14-4e.

Jasper County—Paulett & King's No. 1 Thigpen, Section 23-2n-10, junked and abandoned at 2,100 feet.

Lauderdale County—Gowan and others' No. 1 Hauser, formerly carried as No. 1 Simmons, 330 feet south and east NW cor., Section 33-8-18, rebuilding.

Lincoln County—Louisiana-Mississippi Land & Oil Co.'s No. 1 Case, NE NE, Section 21-8-6, commenced drilling.

Monroe County—Amory Petroleum Co.'s No. 1 Bourland, Section 2-13-19, drilling 2,195 feet (will be 3,000-foot test); No. 1 Hall, NE cor. SE SW, Section 8-13-17, drilling out junk at 2,436 feet. Amory Natural Gas Co.'s No. 2 Carter, Section 7-13-17, drilling at 705 feet (500 feet north of discovery gasser). Brummett & DeMontrond's No. 1 Reeves, SW SW, Section 31-14-16, derrick. Park Bowser's No. 1 Cowart, Section 2-12-19, set 65 feet of 20-inch to cut out surface water. Mawk Oil Co.'s No. 1 Seavy, 200 feet north and east SW cor., Section 22-13-7, abandoned at 533 feet. Arkansas Natural Gas Corp.'s No. 1 Rye (Natural Gas & Fuel Corp), NW cor. NE NW, Section 22-15-17, salt water sand 2,942-54 feet, filled up 800 feet, drilling at 2,000 feet. A. M. Sutton's No. 1 Acker, SW SW, Section 25-13-19, abandoned at 1,715 feet. R. E. Zuendt's No. 1 Taylor, NE cor. NE SW, Section 30-14-17, abandoned at 150 feet.

Rankin County—Lion Oil Refining Co.'s (Ganzel and others) No. 1 Misterfeldt, NW cor. SW NE, Section 2-4n-1e, shut down at 42 feet changing to heavier rig and curing titles.

Sharkey County—Atlantic Oil Producing Co.'s No. 1 Houston, 330 feet south and west NE cor. SW SE, Section 30-11-6, drilling black shale at 3,090 feet.

Two old wells in Rapides Parish, Louisiana, like those in Mississippi reported above as abandoned, were dropped from the report this week, O. E. Gilbertson's No. 3 Wettermark, Section 13-5-4, at 2,250 feet and Glenmora Petroleum Co.'s No. 1 fee, Section 1-2s-2w, at 3,860 feet.

**NORTH LOUISIANA**

**Bienville Parish**

W. P. Wallace's No. 1 State, Section 16-16-10, is drilling at 1,850 feet.

**Bossier Parish**

Woodmansee and others' No. 1 Bolinger, Section 9-22-11, is drilling at 900 feet.

**Caddo Parish**

D. C. R. Oil Co.'s No. 1 Hunter, Section 17-19-14, topped the chalk rock at 1,225 feet, went out of it at 1,640 feet and is drilling at 1,665 feet.

**Claiborne Parish**

Dixie Oil Co.'s No. 1 Gilbert, Section 27-21-5, sidetracked two joints of drill stem and core barrel at 5,007 feet and is drilling at 5,014 feet. El Dorado Chief Oil Co.'s No. 1 Baker, Section 26-20-7, got the top of the chalk at 2,355 feet and is still in it at 2,540 feet.

**DeSoto Parish**

Benedum & Trees Oil Co. set 12-inch at 234 feet on No. 1 Mahoney, Section 22-14-12. Carlton Drilling Co. passed up a sand at 1,970 feet which filled the hole with 300 feet of fluid, 50 per cent water, and is drilling deeper on No. 1 Stevens, Section 12-11-16. Luke Case and others' No. 1 Boatright, Section 3-10-13, is shut down at 1,810 feet. R. O. Roy is drilling chalk at 1,885 feet on No. 1 Sample, Section 1-13-14.

**East Carroll Parish**

Palmer Corp.'s No. 1 Mitchner, Section 8-19-11, is in igneous rock at 2,700 feet.

**Grant Parish**

L. C. Swope's No. 7 fee, Section 18-9-1e, reported as an abandoned derrick some time ago, has rig up.

**Lincoln Parish**

V. E. Shaw and others are trying to kill an artesian flow at 340 feet in No. 1 Voss, Section 1-20-3.

**Monroe District**

Morehouse Parish—Woodley & Collins have set 12-inch at 140 feet on No. 1 Harp, Section 22-22-7.

Ouachita Parish—Phillips and others' No. 1 School, Section 16-16-4, is drilling at 3,120 feet.

Union Parish—Sundby and others' No. 1 Security Trust, 150 feet north and west SE cor., Section 6-23-1e, set 101 feet of 10-inch and is drilling at 500 feet.

**Natchitoches Parish**

S. D. McDaniel has rig up for No. 2 Clark-Morse Lumber Co., 800 feet east and 350 feet north SW of the center of Section 23-5-6. Robeline Oil & Gas Co.'s No. 1 Cassady, Section 7-8-9, is drilling hard lime at 2,667 feet.

**Richland Parish**

Richland Operating Co. has rig up for No. 1 S. R. Humble, in Section 30-16-7, and Wilson and others set 207 feet of 10-inch on No. 1 Buie, Section 17-15-7.

**Sabine Parish**

R. L. Gray is arranging to drill 8¼-inch plug at 1,997 feet on No. 2 Bowman-Hicks, Section 14-7-14, to test 9 feet of sand, total depth 2,006 feet and is coring shale with streaks of oil sand at 2,486 feet on No. 1 Sabine Lumber Co. in Section 13-7-14.

**EAST TEXAS**

Shelby County—Gulf Refining Co.'s No. 1 Carraway, in the J. H. Patterson Survey is drilling hard gray lime at 3,040 feet.

**ARKANSAS**

**Ashley County**

The Texas Company's No. 1 Kiefer, Section 11-18-4, is drilling a white rock at 3,017 feet.

**Calhoun County**

Joe Hurley and others are drilling sandy shale at 2,850 feet on No. 1 Arkansas Timber Co., in Section 29-16-12.

**Drew County**

Ohio Oil Co.'s No. 1 Jerome Lumber Co., Section 13-15-4, is drilling at 1,620 feet.

**Logan County**

Arkansas Natural Gas Corp.'s No. 1 Parks, Section 26-8-24, is drilling at 4,146 feet.

**Miller County**

E. A. Martin is drilling No. 4 Dale, Section 23-15-26, at 3,140 feet.

**Union County**

Bell and others' No. 1 Terrell, Section 27-18-14, is shut down at 2,415 feet for refinancing. Calgo Oil Co.'s No. 1 Primm, Section 25-18-15, tested salt water in sand from 4,223-33 feet and is coring at 4,275 feet.

**Ouachita County**

J. E. Crosbie set 10-inch at 110 feet on No. 1 Goodwin, Section 13-15-16, and is waiting on standard rig to pump No. 1-A Primm, Section 24-15-16, standing 300 feet in fluid from 32 feet of broken sand, total depth 2,072 feet. Louisiana Oil Refining Corp. has rig up to drill No. 1 Manly, Section 15-15-19. McDonald Brothers' No. 1 Wilson, Section 25-15-18, is slopping over the top of the casing while waiting for standard rig to pump from 16 feet of sand, total depth 2,828 feet.

**MISSISSIPPI**

Monroe County — Arkansas Natural Gas Corp.'s No. 1 Rye, Section 22-15-17, had a salt water sand at 2,942-54 feet that filled the hole 800 feet and is drilling at 2,958 feet.

Sharkey County—Atlantic Oil Producing Co.'s No. 1 Houston, Section 30-11-6, is drilling shale at 2,984 feet.

**TENNESSEE**

Decatur County—Chester County Oil & Gas Co.'s No. 1 Montgomery is drilling below 600 feet. Standard Oil Co. is drilling No. 1 Wyatt at 258 feet in hard white lime.

## KANSAS FIELDS

(Continued from Page 53)

tion for No. 10 Sheppard, SE cor. NE NW, Section 11-22-10. No. 9 Sheppard, NE cor. NW, Section 11-22-10, made 200 bbls. in sand at 2,084-2,140 feet.

**Harvey County**

Rosenthal and others moved the rig out for No. 1 Ingalls, C NW SW, Section 24-23-3w. Patton and others' No. 1 Haise, SE cor. SW NE, Section 18-24-2, is a rig on the ground.

**Marion County**

Fred Frank's No. 1 Schlotthauer, NE cor. SE NW, Section 25-19-3, is dry and abandoned at 2,770 feet.

**Mitchell County**

Gurley and others' No. 1 Abercrombie, C NW NE, Section 32-9-7w, is dry and abandoned at 4,108 feet.

**Morris County**

Moseley and others' No. 1 Cessman, SW cor. NE, Section 24-16-9, has been abandoned at 1,740 feet.

**McPherson County**

McPherson Oil & Gas Development Co.'s No. 1 Stein, SW cor. NE SW, Section 17-18-1w, is dry and abandoned at 3,515 feet. Merriman, Shidell and others moved the rig out for No. 1 Lindberg, SW cor. NE, Section 32-18-2w. McPherson Oil & Gas Development Co. has dug the cellar for No. 1 Decker, C SE, Section 11-19-2w. Tatlock and others made location for No. 1 Hoyer, SW cor. NE, Section 32-20-1w.

**Rooks County**

Krueger and others made location for No. 1 Roffman, SE cor. NW SW, Section 14-9-16w.

**Russell County**

Keys Petroleum Co. and others' No. 2 Mermas, NW cor. NE SE, Section 32-13-15w, made 125 bbls. in sand at 3,325-33 feet.

**Rush County**

Danciger and others made location for No. 1 Schwendt, NW cor. SW SW, Section 22-17-17w.

**Sumner County**

Washoma Oil Co.'s No. 2 Bussard "B," CNL NE SW, Section 36-31-2, made 150 bbls. in sand at 1,992-2,009 feet. Schoff and others' No. 1 Hughway, NE cor. NW, Section 14-32-2, is dry and abandoned at 2,220 feet. Marland Oil Co.'s No. 1 Peters, SW cor. Section 30-34-2, is dry and abandoned at 3,768 feet.

**Sedgwick County**

Connell & Slick's No. 1 Wyatt, NE cor. SE SE, Section 3-25-1w, is a rig building. Shawver & Dickey's rig is up for No. 1 School Lot, SE cor. NE SE, Section 36-25-1w. Hartman & Skaer and others' No. 1 Bolan, SW cor. SE SW NE, Section 36-25-1w, is rigging. John Rogers and others' No. 1 Fulkerson, NW cor. NE SE, Section 36-25-1w, is drilling at 370 feet.

Jones & Kirk moved the rig out for No. 1 Sherman, SE cor. NE, Section 4-25-1. E. F. Jones has the rig up for No. 1 Bachelder, SW cor. NW NW, Section 31-25-1. Patton & Wentz made location for No. 1 Swenson, NW cor. NE, Section 6-26-2. Hartman & Skaer and others moved the rig out for No. 1 Hutchinson, SE cor. SW, Section 23-26-2w. Reynolds & Hays' No. 1 Roll, SW cor. NW NE, Section 7-26-1, made 500 bbls. from sand at 3,374-93 feet.

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Additional Classified Wants on Next Page

## SOUTHWEST WILDCATS

(Continued from Page 54)

ing at 3,727 feet. Crays & McCardle's No. 1 Hicks & Hicks, Perdernal grant, 150 feet to northeast lines and 200 feet to southeast lines, is drilling at 200 feet.

**Webb County**

Edonard Raymond's No. 1 Schmellzer, Share 2, J. Galan grant, Brewster pasture, is moving on. G. S. Lumpkin's No. 1 H. Yeager, Porcion 33-34-35, Block 17, is location 1,170 feet to east line and 150 feet to south line. L. W. Nelson's No. 1 Moglia, Survey 672, located 150 feet to east line and 2,584 feet to south line, is moving on.

**Zapata County**

National Oil Co.'s No. 1 Don B. Adams, Section 11, Block 4, is rigging up. John Pappas' No. 1 Cuellar, Porcion 33-34, Block 5, located 333 feet to northeast lines and 194 feet to southeast lines, is drilling at 200 feet with sand at 125 feet showing slight oil and gas.

**Atascosa County**

Amphion Oil Co.'s No. 1 Sam Schlisser, Farm B of Arnold Farms, 300 feet to northeast lines and 600 feet to southeast lines, is rigging up to drill 3,000 feet.

**Bastrop County**

Gypsy Producing Co.'s No. 1 Lottman estate has resumed drilling at 2,320 feet. Billy Mayfield's (Krebs-Leach) No. 2 McColl, Stephen F. Austin Survey, 50 yards west of No. 1, is shut down at 1,010 feet.

**Bexar County**

Allen Burnam's No. 1 Ward, A. A. Gardiner Survey, is drilling at 1,600 feet. Dixie Oil Co.'s No. 1 Medina Irrigation Co., William Miller Survey 180, located 1,666 feet to north line and 470 feet to west line, spudded in and shut down. Gulf Production Co.'s No. 1 F. Gutz, M. F. Rodriguez, Survey No. 3, located 150 feet to north and west lines, is drilling at 1,350 feet in sticky shale. Humble Oil & Refining Co.'s No. 2 Oppenheimer, J. M. Urriegas Survey, 300 feet north of No. 1, is drilling at 2,284 feet. Indian Creek Oil & Gas Co.'s No. 1 W. Wolfsohl, J. A. Navarro Survey No. 5, located 180 feet to CEL, is moving in heavier rig to drill to Edwards lime. William M. Morgan's No. 1 E. S. Bridge, 8 miles southeast of San Antonio, is shut down at 800 feet with light oil showing at 600 feet. Moore-Jauer's No. 1 Holly R. Ellison, T. York Survey, 2,916 feet to east line and 1,500 feet to south line, is underreaming casing at 383 feet. B. L. Raborn's No. 1 Engelmann, John James Survey No. 73, located 300 feet to south line and 600 feet to east line, is resuming work at 1,715 feet.

**Caldwell County**

Whittington and others' No. 1 J. G. Horner, Francis Berry Survey, is shut down at 700 feet due to boiler trouble.

**Calhoun County**

B. F. Thompson's No. 1 Thomas, John P. Tully Survey, 910 varas north 5 feet 30 inches west of north corner of John C. Post Survey, is drilling at 2,390 feet.

**Colorado County**

National Oil Co.'s No. 1 H. T. Brandt, Freeman Pettus league, 150 feet to south line and 1,000 feet west of highway, is location. Shell Petroleum Corp.'s No. 1 Neuendorff, J. Boyd Survey, 500 feet to east line and 200 feet to south line, is moving on.

**Edwards County**

A. M. Griffith's No. 1 Wardlaw, Section 60, Block V-8, located 1,050 feet to west line and 150 feet to south line, has been spudded in.

**Frio County**

Austin Johnson and others' No. 1 Eschenburg, E. Gallagher Survey, No. 788, located 1,250 feet to east line and 1,625 feet to south line, is location. Pilgrim Oil Co.'s No. 2 Blackaller, James Gouley Survey, is standing at 3,218 feet.

**Fayette County**

Marshall & Moore Oil & Gas Co.'s No. 1 John A. Kerr, M. Mulldoon league No. 5, about 250 varas to north line and little west of center, is shut down at 2,078 feet. Merritt and others' No. 1 Zvereck is at 325 feet. National Oil Co.'s No. 1 J. C. Melcher, S. M. Williams league, 300 feet to north and east lines, is drilling at 1,462 feet. R. E. Phalon's No. 1 Cervenka, Fayette County school lands, is shut down at 3,200 feet.

**Goliad County**

J. E. Alexander's No. 1 A. Frommie, 10 miles north of Goliad, is drilling at 500 feet. Booth McCarson's No. 1 Murray, Goliad Survey No. 3, Block 11, is location 200 feet to west line and 150 feet to south line.

**Gonzales County**

Alexander & Smith's No. 1 Billings, G. Gwinn Survey, NW cor., has derrick up and part of the rig on the ground. Joe Bruner's No. 1 Miller, Richard Heath Survey, 3,040 feet to north line and 200 feet to east line, is preparing to resume drilling. Dunning & Pierce's No. 1 Keepers, R. Ward Survey, is standing at 203 feet. W. D. Flynn's No. 1 Wilhausen, S. Bateman Survey, east central part, is drilling at 5,212 feet. W. G. Malone's No. 1 Staton, J. M. Salinas Survey, 375 feet to southwest lines and 1,275 feet to northwest lines, is shut down at 400 feet. L. P. Unkel's No. 1 Lumm & Bouldin, R. Ward Survey, Block 10, located 570 feet to CSL, is at 380 feet moving in heavier rig.

**Guadalupe County**

Pat Armstrong's No. 1 Halm, Wakefield Survey, bank failure tied up lease and is now getting new assignments. G. A. Greene's No. 1 B. B. Dix, Ira Nash Survey, 610 feet to north of road and 320 feet to east line, is drilling at 665 feet. J. J. Christe's No. 1 Taylor, Thomas Gustavus Chotwell Survey, 1,100 feet to southwest lines and 1,130 feet to southeast lines, at 1,063 feet is drilling deeper. Miller Brothers' No. 1 Gib Springs, E. Cortari Survey, 450 feet to west line and 775 feet to south line, at 1,987 feet has drilled out plugs and will go through Austin before testing. Eugene Sights' No. 1 C. Woehler, John King Survey, 310 feet to north line and 210 feet to east line, is drilling at 1,935 feet. Shell Petroleum Co.'s No. 1 Charles Grein, A. Mansola Survey, 530 feet to west line and 150 feet to south line, is drilling at 1,990 feet. Simms Oil Co.'s No. 1 E. Jandt, J. D. Clements, 150 feet to north and west lines, is drilling at 1,850 feet.

**Hays County**

Estess-Moore & King's No. 1 C. N. Sledge, Hunton & Jones Survey, 285 feet to northwest lines, is shut down at 804 feet.

**Jackson County**

The Texas Company's No. 1 W. C. Moore, I.&G.N. Survey No. 208, located 5,108 feet to south line and 150 feet to west line, is drilling at 3,188 feet. Wright Brothers' No. 2 Classen is drilling at 3,845 feet.

**Karnes County**

W. E. Hewitt's No. 1 W. E. Porter, 6 miles south of Runge, is drilling.

**Kerr County**

McMan Oil & Gas Co.'s No. 2 Walter Schriener is location.

**Kinney County**

Lloyd Oil Co.'s No. 1 G. Bedell Moore estate, Survey 117, is location 1,320 feet to CNL. Mardon Oil Co.'s No. 1 Jim Clamp, Section 1,492, Survey 346, is drilling at 2,508 feet in upper part of the Edwards.

**Lavaca County**

The Texas Company's No. 1 Russek, H. Martin Survey, 150 feet to south and west lines, is drilling at 2,615 feet.

**Live Oak County**

Houston Oil Co.'s No. 1-A Brown Land & Cattle Co., M. B. Kivlin grant, is location. J. K. Rowan Drilling Co.'s No. 1 Lyne, Survey 171, is location in south central part.

**Maverick County**

Ryan Consolidated Petroleum Co.'s No. 2 Indio Ranch, Survey 7, is at 1,320 feet. Rycade Oil Corp.'s No. 3 Chittim, Section 116, Block 7, is drilling at 2,620 feet.

**Medina County**

W. M. Allison's No. 1 Haeglin, Survey 579, located 300 feet to CNL, is drilling at 600 feet. California-Medina's No. 1 Rothe is shut down at 3,278 feet. F. M. Cline's No. 1 Bendele, Survey 593, located 600 feet to west line and 150 feet to south line, is bailing little oil at 815 feet. Donaldson Oil Development Co.'s No. 1 Adams Co., Survey 25, located 160 feet to east line and 1,227 feet to south line, is at 2,535 feet in top of chalk with strong odor of oil. Lynch and others' No. 1 Mott is standing at 503 feet. E. R. Thomas' (Thomas-Ryan) No. 1 Conger, Survey 469, located 200 feet to north and east lines, is at 738 feet with core at 720-38 feet showing oil which covered ditch.

**McMullen County**

Natt Holman's No. 1 Shiner, Henry M. Brewer Survey, location being resurveyed, has set surface casing and resumed drilling.

**Nueces County**

Nueces River Basin Development Co.'s No. 1 F. A. Allen is shut down at 2,908 feet.

**Refugio County**

Blanco Creek Oil Co.'s No. 1 St. John, J. Scott Survey, 708 feet to northwest lines and 3,074 feet to northeast lines, is drilling at 2,250 feet. Dunlap & Wilkerson's No. 1 Rooke, 10 miles south of the field, is standing at 2,750 feet. J. M. Davis and Tom Horn's No. 1 Howard, Section 8, located 600 feet to north line and 2,640 feet to east line, is drilling at 2,300 feet. Magnolia Petroleum Co.'s No. 1 Glenewinkle, J. Scott Survey, 330 feet to south and east lines, is drilling at 3,200 feet in gas sand.

**San Patricio County**

C. I. Albertson's No. 1 Boscamp, W. R. Hazen Survey, 200 feet to CNL, is shut down at 1,420 feet. George B. Pickett's No. 1 Whitworth, NW NW, Section 60, is standing at 3,250 feet.

**Travis County**

Flynn Brothers' No. 1 St. Edwards University spudded in and is drilling with spudding machine.

**Uvalde County**

Pure Oil Co.'s No. 1 J. D. Smythe, Survey 687, located 1,920 feet south and 265 feet east of No. 1, is drilling at 657 feet.

**Victoria County**

Houston Oil Co.'s No. 2 Dr. Allen Kyle, one-half mile east of Nursery, is drilling at 1,160 feet.

## MICHIGAN FIELDS

(Continued from Page 64)

having difficulty removing the 6⅝-inch casing.

The Paragon Oil Co.'s No. 1 Kooi, SW NE Section 8-10-16, first completed as a small upper Traverse oil producer, will be drilled to the Dundee gas.

**New Locations**

Six new locations for the Muskegon Township area were announced: Melbohaco Oil Co.'s No. 1 A. B. Cook, NW NW Section 22-10-16; James V. Howard's No. 1 and No. 2 Fagan, NW SW Section 10-10-16; Reed Oil Co.'s No. 4 Torrent, SE SW Section 8-10-16; Mitchell and Mesiroff's No. 1 Conrad C. Nelson, SE NW Section 7-10-16; and the Peerless Gas & Oil Co.'s No. 1 Thomas Gimino, SW NE Section 22-10-16.

Nearly 30 drilling wells in Laketon Township were shut down for lack of gas or waiting for the outcome of the Dundee problem.

Two wells were near production in the upper Traverse but could not be completed for lack of gas: Dixie Oil Co.'s No. 1 J. D. Ross, NE SW Section 12-10-17, in which oil was encountered at 1,677 to 1,678 feet, and Carl P. Damm's No. 1 fee, NE SW Section 12-10-17, shut down at 1,650 feet. They are offsets.

The Beaver Oil Co.'s No. 1 Peters, NE SE Section 12-10-17, is drilling to the Dundee after failing to get more than a slight show in the upper Traverse. It was drilling at 1,700 feet.

V. M. Voorhees and others' No. 1 Varnes, SW SW Section 15-10-17, was drilling at more than 1,900 feet on a semiwildcat hole after having no show in the Traverse.

The East Ohio Gas Co.'s No. 1 Malone, NW SE Section 12-10-17, was drilling at about 1,400 feet.

Three new locations were announced for Laketon Township: James V. Howard's No. 2 Sovacool, NW NE Section 12-10-17; James V. Howard's No. 2 Donnan, NE SE Section 11-10-17, and the Paragon Oil Co.'s No. 2 H. DeLong, NE SE Section 12-10-17.

**Muskegon County**

The White River Oil Corp.'s No. 1 Montague, SW SW Section 21-12-17 Montague Township, struck bottom water at 2,065 feet and was abandoned.

Harper and Newman's No. 1 Cook well, NE NE Section 2-9-16, Fruitport Township, had reached 2,285 feet without striking bottom water. Drillers had given up hope of success in the Dundee.

Operations on the Moon-Fink Development Co.'s No. 1 Nash, SW NW Section 20-9-14, Ravenna Township, were resumed.

Cloverville Oil Co.'s No. 1 A. Born, NE NE Section 12-9-16, Fruitport Township, was drilling at 1,600 feet and three other Muskegon County wildcats were about 1,000 feet: L. C. Patterson's No. 1 Monette, SE SE Section 13-12-15, Holton Township; P. G. Fennell's No. 1 Gustafson, SE SE Section 19-11-16, Dalton Township; and Shoreline Corp.'s No. 1 Farrell, NW SW Section 20-11-16.

**Western Michigan Wildcats**

Drilling of a 5,000-foot deep test in Brooks Township, Newaygo County, near the village of Newaygo, was the outstanding new development among Western Michigan wildcats. It is to be drilled by Frank H. Stover.

V. M. Voorhees is moving in a rig for Royal R. Miller's No. 1 Paul Sako, NW NW Section 27-7-15, Grand Haven Township, Ottawa County, another new location.

Location for a new wildcat in Newaygo County was announced, the Newaygo Gas & Oil Co.'s No. 1 A. J. Bates, NE NE SE Section 12-13-13, Sherman Township.

Muskegon Oil Corp.'s No. 1 Essenberg-Dreyer, SE SW Section 13-5-16, Park Township, Ottawa County, is straightening hole at about 1,900 feet.

Sankey Oil & Gas Co.'s No. 1 Been, NW SE Section 22-14-15, Newfield Township, shot loose a bit at about 810 feet.

Lima Oil Corp.'s No. 1 Atwood, SE SW Section 6-11-13, Ashland Township, Newaygo County, was underreaming at about 2,100 feet.

Five western Michigan wildcats were shut down and the Wright Oil Co.'s No. 1 Kluting, SW NW Section 10-8-13, Wright Township, Ottawa County, was fishing at about 380 feet.

Edward DuVall was driving pipe for his No. 1 Fiel, SW NE Section 31-13-16, Golden Township, Oceana County, at about 200 feet.

The Muskegon River Light & Power Co. is reported to be considering the drilling of five or six test wells for oil in Osceola County near Reed City.

### MRS. KLUMPH DIES

Mrs. Leva Klumph, wife of W. E. Klumph of the Prairie Pipe Line Co., died at a Tulsa hospital following a month's illness.

### OIL SCOUT DIES

PONCA CITY, Feb. 23.—Calvin J. Vance, 28 years old, scout for the Maryland Oil Co., died following a week's illness.

### FRICK-REID ELECTION

The Frick-Reid Supply Corp., of Pittsburgh, Pa., has announced the election of William M. Patterson as president and Richard T. Frick as first vice president.


# Classified Wants

(Continued from Preceding Page)

**PATENT ATTORNEYS**

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Before disclosing your invention to anyone, send for blank form.
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Talk to men in the fields, the men who use J & L Seamless Casing, Tubing and Drill Pipe.

In place of only the passive acceptance they accord ordinary products, you'll find full-measure enthusiasm built on experiences that have proved J & L Seamless to be the highest quality steel pipe you can run in a hole.

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**JONES & LAUGHLIN STEEL CORPORATION**
**PITTSBURGH PENNSYLVANIA**

# Natural Gasoline Manufacture

## Seminole Shutdowns Sunday Lower Output About 10 Per Cent

As a result of many companies shutting in their production over Sunday, the gasoline plants in the Seminole area showed a decline in output of approximately 100,000 gallons on February 24, and should the program of shutting down be extended, as it apparently will be, the decline in the production from that field over a month's time might easily mount to 2,000,000 gallons. As yet, the program is too new and the effect of it too uncertain to estimate the exact decline for the individual companies, but several of them have shown a loss of 40 per cent for the day.

The amount of decline is entirely dependent upon the source of the gas, and those manufacturers connected to wells belonging to companies which do not observe the Sunday shutdown program, of course, have witnessed no change, while in two cases, at least, the gas comes from a few operators, all of which shut down, and the plants' production amounted to only a few hundred gallons.

Among the companies affected by the shutdown movement more severely were the Barnsdall Oil Co., Victor Gasoline Co., Forrest E. Gilmore Co. and the Carter Oil Co. The total normal production of the Barnsdall's Earlsboro plant was cut from about 36,000 gallons daily to 22,000 gallons two Sundays ago, and for some reason, not entirely determined yet, the loss in the production has not been recovered, and the plant continues to yield but 22,000 gallons daily. This might have been a natural decline, but the fact it immediately followed the Sunday shutdown makes it appear as though at least part of the decline is due to this.

The Carter Oil Co. experienced a decline of approximately 18,000 gallons, or about 10 per cent; the Skelly Oil Co. about 8,000 gallons, and the Forrest E. Gilmore Co., Victor Gasoline Co. and the Shell Petroleum Co. roughly estimated their losses from 10,000 to 20,000 gallons each.

Operators are not ready to fully approve the new plan nor to condemn it, but in many cases it is not left to their choice, but rather up to the parties supplying the gas. If the gas is not available, there is little left to do but shut down a part of the plant at least. Most of them agree the idea of completely shutting down the plant will work a great hardship so long as there is a chance of the plants freezing up. If all lines have to be drained and the equipment allowed to cool off, it will take one, two or even three days for these plants to get back

(Continued on Page 146)

### TWO NEW PLANTS

SHREVEPORT, La., Feb. 23.—Two natural gasoline plants and two carbon black plants will be built in the Richland Parish gas field in eastern Louisiana as a result of a recent ruling of the state courts allowing carbon black plants to be operated.

The Century Carbon Co., an Illinois company, has completed negotiations for a carbon black plant and gasoline extraction unit to be constructed at Crew Lake, Richland Parish, at a total cost of $600,000. The carbon black plant will have a capacity of 20,000,000 feet of natural gas daily.

The Industrial Gas Co. has announced that it will start work immediately on a combined carbon black plant and gasoline plant at Alto, Richland Parish. The plant will have daily capacity of 100,000,000 feet of natural gas.

## DISTILLATION APPARATUS IN USE IN NATURAL GASOLINE MANUFACTURE

By J. E. Kobernick*
Engineering, Research & Equipment Co.

The early stage of absorption plant development like most other pioneer developments was extremely crude, yet few industries have seen such rapid growth and in such a comparatively short time attained the high standard of efficiency, based upon scientific standards of measure.

The earlier stills used in separating the gasoline fractions from the saturated absorption oil, consisted of a horizontal shell with live steam or exhaust steam blown into the oil as the sole source of heating. Shells were later bricked in and fire was applied to the bottom as an additional supply of heat. Both of the above however, were subject to excessive emulsion troubles, and were very unsatisfactory from the start. Heat being a large factor in the distillation process, heat exchangers were applied to the plants next and as we all know, the operation became more economical.

Then came the "can tower." This was a vertical column filled with rocks or battered tin cans. This was used as a knockout, sometimes called dephlegmator. As a cooling medium some used water in direct contact with vapors, while others introduced cool rich oil into the top of the column.

Next came the vertical still with a flash chamber and various types of grids and baffles. At about this stage of development preheaters between the heat exchangers and the still were introduced and free or agitation steam admitted to the column below the flash chamber, usually direct into the body of the oil.

The vapors leaving the top of the column were cooled by being passed through suitable partial condensers or dephlegmators and the condensate was returned to the column with the enriched or fat absorption oil. This practice is still followed by quite a number. The separation effected is very poor and the return reflux tends to overload the still.

Still another development follows: The introduction of what may be called the overflow type tower. This consisted of plates, flanged and sometimes serrated. Part of these plates were anchored to the shell with the opening in the center and others were suspended from the shell with the openings at the outer edge.

The vapors rising through the column traveled through a descending rain of reflux in its devious passage around the plates. The usual dephlegmator such as has been mentioned was a common piece of equipment with this type of installation.

Bubble cap and perforated plate type strippers were next developed, and while this type of tray undoubtedly attained a higher plate efficiency than the overflow type, we cannot ascribe to this particular development anything more than mechanical improvements. The old type dephlegmators were used and a definite separation of gasoline from the absorption oil was still an unaccomplished art.

**Later Developments**

This now brings us to a still later development of the distillation process. This step, however, instead of having been approached from the mechanical efficiency standpoint, took into consideration the result of research work as well.

This research work has been conducted

(Continued on Page 146)

*Plant Operators Meeting, Natural Gasoline Association of America, Ranger, February 26.

### START CALIFORNIA PLANT

LOS ANGELES, Calif., Feb. 23.—The Texas Company has started operating its absorption gasoline plant located in the Kettleman Hills Field of the Los Angeles Basin. The gas at present is obtained from the No. 1 Elliott of the Milham Exploration Co.

The plant is built to handle approximately 35,000,000 feet of gas daily at a plant pressure of 150 pounds. The probable output of the plant is placed at 40,000 gallons daily.

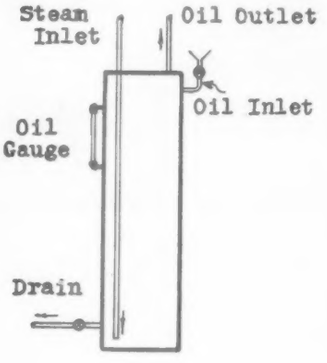
### LONE STAR PLANT BURNS

The natural gasoline plant of the Lone Star Gas Co., located at Gordon, Tex., was damaged by fire Saturday, February 23. The plant, which has an output of from 20,000 to 25,000 gallons daily, will be shut down about three weeks for repairs.

## A PRACTICAL SUGGESTION

### AUTOMATIC LUBRICATOR

A simple and practical lubricator which gives excellent results in the lubrication of the steam engines at the absorption plant, consists of a reservoir for the oil made of a piece of 8-inch by 36-inch pipe welded at both ends with the proper connections.




The connections to the reservoir consist of a 1-inch steam line leading down into the bottom of the reservoir, a 1-inch oil line leading direct from the top of the reservoir to the engines by means of a small header. At the bottom of the reservoir is a drain line for removing any undesired accumulation of oil and water. A liquid level gauge is welded on to the reservoir near the top for reading the oil level. A filling cup also with a valve is welded on at the top of the reservoir.

The automatic lubrication takes place by means of the steam pressure entering in at the base of the oil and forcing it out through the 1-inch line to the engines.

Practical suggestions by those connected with the construction and operation of natural gasoline plants are invited. Payment will be made as soon as suggestions are accepted. Address all communications to the Natural Gasoline Department, The Oil and Gas Journal, Tulsa.

### H. E. FELT JOINS WARREN COMPANY FIRST OF MARCH

On March 1 Howard E. Felt will join the Warren Petroleum Co. as secretary and Joe La Fortune will become vice president, taking the position left vacant by the death of Charles E. Brown, January 3. Mr. Felt's experience has included refinery operations, sales and buying.

After graduating from the University of Pennsylvania in 1917 he joined the army and was in the service two and one

Howard E. Felt

half years. His first experience in the oil industry followed when he joined Atlantic Refining Co. and worked in the manufacturing and sales departments. In 1921 he joined the American Petroleum Products Co. as assistant manager of the Tulsa office and continued in that capacity until September 1, 1926, when he became associated with Dale Moore.

The vacancy left in the Dale Moore Co. will be filled by Eugene C. Felt, Howard Felt's brother.

### NEW ABSORPTION UNIT IN RICHLAND PARISH

SHREVEPORT, La., Feb. 23.—H. E. Oliver of Shreveport and associates have organized the Creola Carbon & Gasoline Co. for the purpose of building a carbon plant and absorption unit on a location 7 miles north of Mangham, Richland Parish, on the Missouri-Pacific Railroad. The two are estimated to cost $185,000 and will have an initial gas capacity of 8,000,000 feet. Those forming the enterprise have approximately 2,000 acres of leases in the Richland district and one completed well gauging approximately 40,000,000 feet initial open flow.

They plan to drill additional wells to supply the carbon and gasoline plant through an 8-inch line to be built, and also a 20-mile line to Swartz, in the Monroe Field, to deliver surplus production above their own requirements to another carbon-gasoline plant there. This will be the second combination carbon and gasoline plant in the Richland Field and the third gasoline plant.

W. C. Feazel and others of Monroe recently organized a carbon and gasoline company to utilize their production and the third, and largest, of the gasoline plants will be the one to be built by the owners of the Mississippi Valley Fuel Corp., formed a short while ago to build a 24-inch line to St. Louis.

# E R E C O

## DUPLEX ABSORBERS

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## *But*—

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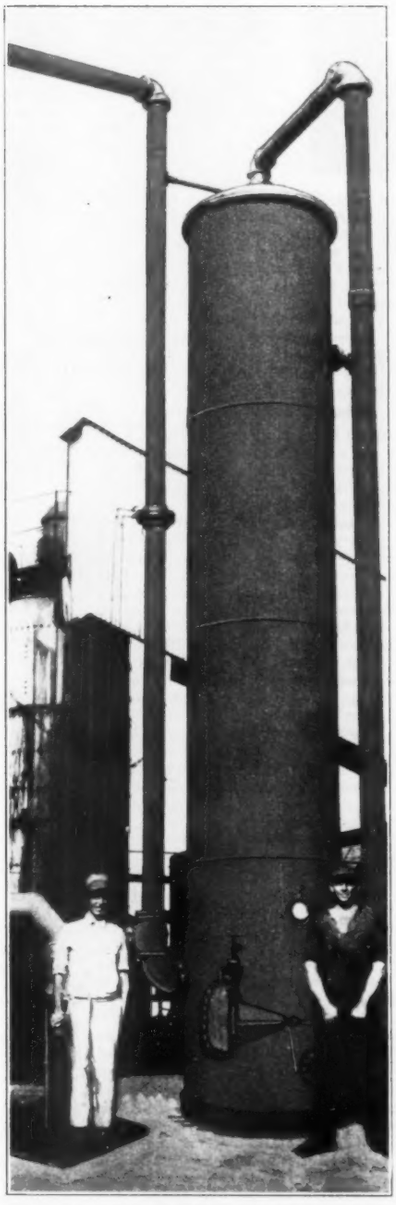

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*Patents Pending*

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# Better Gasoline Demand in Chicago

## Orders Against Contracts Showing Improvement and Jobbers Generally Taking More Interest in the Market

By J. B. Waldo

CHICAGO, Feb. 25. — There was a better demand for gasoline today, some spot orders being received and orders against contracts showing considerable improvement. The buying was not heavy but generally jobbers are taking more interest in the market. The price situation showed added strength. Major refiners held to their price of 7 cents for the U. S. Motor grade and other sellers quite generally held for 6½ to 6¾ cents, the higher price being for Oklahoma material and the lower price for West Texas gasoline. Quite a number of buyers tried to secure gasoline on the basis of previous quotations but usually the sellers held for at least 6½ cents. Kerosene was strong, some refiners advancing their price for the 41-43 grade to 5¾ cents. Very little was still available at the half cent.

### Furnace Oils Most Active

Furnace oil dealers are still the most active of all buyers in the market but their great insistence is to get material shipped that has been ordered for anywhere from one to three weeks. Refiners seem to be falling behind even farther than they were and it is only where the buyers actually receives car numbers that he feels he can count on the order being shipped. Occasional cancellations are received of some very much delayed cars. Stocks are low in the country and the demand will continue until stocks are in better shape. By that time it may be that warmer weather will have decreased the necessity. One large source of supply has notified its customers it will not accept any more shipping instructions until March 5 by which time it hoped to be caught up on instructions already received. Prices for all grades of furnace oils are extremely strong today, in some instances orders being given with instructions to charge any price so long as shipment is made. Distillate is generally held at 4½ cents, gas oil at 3½ cents and single cars of 28-30 fuel oil, if to be had, would bring 3 cents or better per gallon. Heavy zero oils are strongly held and there was considerable inquiry on Monday for March deliveries from consumers who buy from month to month.

### Looking for Upturn

Last week there was a feeling that gasoline prices were at the bottom and that the upturn could not be much longer delayed even by such unfavorable weather as we continue to have. This feeling was increased by the reports of considerable buying by some of the larger companies such as the Gulf Refining Co., which was currently stated to have exercised options previously secured for upwards of 600 cars of material mostly of the U. S. Motor grade. These purchases were stated to have been made in West and North Texas and in Oklahoma. The fact that some of these orders were placed with Oklahoma refiners was given as the reason for the belief that the West Texas plants were pretty well cleaned out of available supplies.

This was not the only buying known to have been done. Exporters were again in the market for considerable quantities and had placed some orders. Some of the local marketers have bought heavily, largely from West Texas, but some Oklahoma material has been contracted for and some of the larger distributors in various parts of the country have also placed orders for at least a portion of their early season's requirements. The feeling of many was they could not go wrong in buying at the prevailing market. All admit the market will be more active just as soon as the weather improves sufficiently to permit a larger use of cars.

### Advancing Quotations

In the fore part of last week, a number of smaller refiners began to advance their quotations stating they were pretty well sold ahead and believed the market justified higher prices. The advances were not large, being in several cases an eighth of a cent, in others a quarter of a cent. These quotations were to the marketers for resale and resulted in higher prices being named to the trade. By the close of the week there was very little gasoline available to jobbers at less than 6½ cents and this was below the price of many sellers. The major refiners continued to quote 7 cents as their price for spot shipments and this price was only for prompt movement or as promptly as the refiner could make. There has been a great deal of delay in the return of empties and railroads and refiners alike are requesting all who receive tank cars to empty them and return them as promptly as possible. Although there were no statements made regarding any change in price, there are some intimations that after the first of the month there may be a revision of prices. It would seem this was a little early in the season considering the condition of consumption and the stocks that have accumulated as a result but some believe the best stimulant to buying right now would be such an advance and that higher prices are really justified by present refining costs. From statements made by some far-seeing wholesale dealers it is evident they are thinking of such a movement. One said last week they had bought and bought and were ready for a price advance. It is generally understood the buying by the Gulf and other large buyers last week was at the level of the recent market, the statement being made that "the prices were attractive to the buyers."

### Consumption Small

The consumption has been very small even for February during the past 10 days.

The demand has been almost exclusively for the U. S. Motor grade and for the antiknock material. The demand for the higher gravities has been light and prices have shown little strength. Conditions to the east of this city have not improved and some very low prices have been made, that is, prices are low on a Group 3 basis although they net the nearer plants a good return provided that plant has a pipe line connection for its crude. Take the City of Detroit order mentioned recently as having been placed at 9.80 cents per gallon. The difference in the freight between East Chicago from which the gasoline was delivered to Detroit and from Group 3, is 2.05 cents per gallon. The gasoline would have netted a Group 3 refiner 6.10 cents; it netted the East Chicago refiner 8.15 cents per gallon at the plant. Natural gasoline has been in demand here in the A and AA grades and these grades have been about the only ones sold here to the jobbing trade.

### Kerosene Strong

The kerosene market has been strong and seems likely to show greater strength as the early spring farm work gets under way. Refiners have advanced their quotations, some of them marking up their price for 41-43 gravity as much as three-eighth cent, others one-fourth cent. The low price at the close of last week was 5½ cents. There is some talk of much higher prices by refiners who claim they have very little kerosene in their tanks. Much of the kerosene distillate has been shipped as raw kerosene on distillate orders. In fact some distributors state they have at times been obliged to deliver treated kerosene to their distillate customers. One refiner believed that the refinery market for kerosene might go as high as the gasoline market before the end of the spring demand. The offset to this condition is that at a parity or near parity of costs the average user of a tractor will prefer gasoline.

Stove distillate has been sought with intense eagerness and prices have been paid for small quantities that are much above any published quotations. Many distributors have found it impossible to secure deliveries of distillate previously ordered within the expected time and have had to purchase in tank wagon lots from the local stations of large local refiners.

### Zero Gas Oils

Zero gas oils have been in a worse position than distillates. The demand has been very large, deliveries slow and the supply at the point where it was needed very inadequate. In fact the demand has been so large off grades as to color or odor and even gravity have been purchased eagerly. Prices are very strong. The straightrun product has also shown an increasing degree of scarcity. Refiner after refiner has reported in response to wires that they were cleaned out of any kind, grade or quality of gas oil and the stock sheets sent to their local offices bear out this statement. There is agood deal of inquiry as to where al the straightrun gas oil has gone. The gas companies are using more than they would with a less severe season. Some has been used as blending material; some is being held for cracking as refiners figure it is worth more to them to crack than the present market. It must also be considered the refineries have been operating at less than capacity and although many plants are not operating their cracking units there are some very large ones that are, and these have been large purchasers of straightrun gas oil and the lighter fuel oils as cracking material. With increased demand and decreased consumption stocks are likely to be much less than has been anticipated. In fact there is an urgent request for straightrun gas oil by many who figured it would be one of the products which could not advance materially in price.

### Fuel Oils in Demand

Fuel oils continue in strong demand for the zero oils and particularly for the lighter gravities. These are just about out of the market and all prices are more or less nominal. The market can hardly be called the price that some buyer in distress will willingly pay for a single car and that is about the extent of the new business on these grades. The demand for the heating oils is so good lower gravities are being substituted for the grade wanted simply because there is nothing else available.

Prices on the 28-30 and higher gravities of zero fuel oils are entirely nominal in this market. Below these the prices are about 5 cents a barrel higher than 10 days ago. The low cold test oils are the only ones wanted but there are some buyers who have shaded their specifications and are accepting oils with a higher cold test or from a different source than they would have done under other than the prevailing conditions. The higher cold test oils are still very slow sellers and are described as a drug on the market.

There is very little doing in lubricating oils right now, the demand being like the oils, according to one oil man, all frozen up.

### Q. D. A.

The change in the Q. D. A. in the Chicago district was the result of the continued offering by several sources of either a straight 4-cent contract or a contract which yielded the dealer that margin. The new Q. D. A., provides for discount of 2 cents a gallon from the service station price on monthly purchases of 500 gallons or more up to 999 gallons and of 4 cents a gallon on all monthly purchases of 1,000 gallons or more. The former rate in this district was the same as the rest of the territory or 2 cents for 500 to 1,999 gallons, 2½ cents for 2,000 to 5,999 gallons and 3 cents for over 6,000 gallons. At the same time the P. D. I. contracts were discontinued as the new discount gave the dealer the wider margin. These discounts apply on tank wagon deliveries to the dealer. Refiners state it has put an end to some negotiations under way for tank car contracts on a 3½-cent basis. The tank car price would be based on the market and guarantee a margin of 3½ cents below the normal tank car price at the point of delivery. At present the tank car price here is 14 cents which would give the dealer a price of 10½ cents less any possible deductions for the revision of the margin when the refinery market reaches the point that the margin is greater than the difference between the delivered cost of the gasoline and the tank wagon price. The price in tank wagon delivereies under the new Chicago Q. D. A., would be 11 cents so the advantage, considering everything, is with the buyer under the Q. D. A., as against the 3½-cent, tank car, guaranteed contract.

Quite a number of the distributors of fuel oil in this city have advanced the price to their consumer customers 1 cent on the lighter oils and one-half to three-fourths cent on the heavy oils. The new prices are on 38-40 straw distillate 8 cents; 32-36 light gas oil, 7¾ cents; 32-36 dark gas oil, 7½ cents; 28-30 fuel oil, 6¾ cents; 24-26 fuel oil, 5¾ cents; 18-22 fuel oil, 5 cents. The large refining companies which operate their own distribution in this city have not advanced their price. The executives of two of these stated it was too late in the season for scuh advances.

There has been no general change in the tank wagon scale over the territory but at several new points, generally small towns, the service station price has been reduced 2 cents so at these points the tank wagon price is 1 cent above the service station price. Indiana, which is a rather bad spot, is one of those states where there are quite a number of such areas.

## ACCIDENT IS FATAL

SAN ANGELO, Tex., Feb. 23.—Injuries were fatal to one oil field worker and two others were hurt in accidents in West Texas fields this week.

E. N. Bowles, aged 41, Texon, died from injuries suffered in a fall while at work in the Big Lake Field. He is survived by two young sons.

W. R. Cowen suffered such a badly crushed leg when it was caught in a rotary that amputation was necessary. He was injured while working in the Roberts Pool in southern Howard County. While working on a rig in the same field, J. A. Boverie suffered painful injuries when his arm was caught in a cat line. Both men are recovering in a Big Spring hospital.

## CONSIDER OHIO SITUATION

The Southeastern Ohio Oil and Gas Producers' Association will hold a special meeting at Logan, Ohio, March 8 to consider and discuss various factors affecting the crude oil industry and especially matters pertaining to present day conditions.

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# Half Cent Break in Eastern Tank Car

## Slackened Consumption Due to Weather and Dull Market for Export Navy Gasoline. Refineries Slow Down

By E. A. Mockler
*New York Bureau, The Oil and Gas Journal*

NEW YORK, Feb. 25.—A general break of one-half cent per gallon in tank car gasoline featured the week in East Coast territory. The reduction followed several weeks of more or less open price cutting, and was attributed to slackened consumption, due to unfavorable weather conditions, and the accumulation of large quantities of U. S. Motor at East Coast refineries. The dull market for export Navy gasoline in recent weeks was responsible in some measure for the accumulation of stocks here, and some predictions are being made in trade circles of a drop in price on export Navy gasoline of a half cent to establish a trading basis.

Changes of outstanding importance were lacking in other divisions of the refined products market. Wax continues soft, under limited buying. The same condition prevails in lubricating oils. Fuel and gas oils are fairly steady, with a good movement noted currently. Kerosene volume has also held up exceptionally well, the cold and stormy weather throughout the East this week having stimulated consumption further. Minor products are quiet and without material change.

East Coast refiners are reported slowing down their refinery operations somewhat. This is a seasonal development, but the need for such curtailment has been emphasized this season by the rather heavy holdings of a number of products, together with the uncertain market outlook for refined oils during the coming season. Principal refiners in most instances are disinclined to add very materially to their surplus stocks of gasoline at the moment, preferring to wait until the situation shapes up more definitely before going forward with their plans for the summer months.

### Tank Car Gasoline

Effective February 21, Standard Oil Co. of New Jersey, reduced U. S. Motor gasoline one-half cent to 9½ cents at principal Atlantic Coast terminals. Other leading refiners have followed in the decline. While the market had been established "officially" at 10 cents since the first of the month, there has been considerable "sharpshooting" during that period, and it is safe to say the bulk of the business in the open market has been going at 9¾ cents at refinery terminals. The half-cent cut to 9½ cents again establishes the market on a firm basis. There is some talk in trade circles regarding the possibility of a further cut carrying the market down to 9 cents, but it appears at this time such talk is rather premature. Unless weather conditions throughout the area continue as unfavorable as the past fortnight, refiners have strong hopes of being able to maintain the 9½-cent level. There is plenty of gasoline around, considerable quantities which would normally have moved into export channels having "backed up" on the domestic market, due to the effort to hold the export quotation at 8½ cents at the Gulf. There is some talk, however, of a half-cent cut in export Navy gasoline, and should this reduction materialize, it is probable considerable quantities of spot motor fuel would be moved into export channels.

Eastern jobbers are still drawing their gasoline largely against marginal contracts which show them a much better margin of profit than stocks bought in the open tank car market. Owing to the curtailed consumption during the past fortnight jobbers are adhering to a hand-to-mouth policy, and tank car movement has slowed down measurably.

Considerable interest attaches in the local trade to the purchase of the Prudential refinery and stations by Marland, this acquisition putting another strong company in the eastern field. Since the first of the year, the Eastern territory has witnessed the entrance of three strong factors, Shell, Richfield, and Marland. With these three companies in the field, and Lago shortly to be in position to market heavy quantities of motor fuel from its new refinery at Aruba, the outlook favors a sharp competitive gasoline market during the coming summer season.

### Tank Wagon Gasoline

No further price breaks have developed in the tank wagon gasoline price structure, although the market position is still rather shaky in some sections of the East. Snow storms and freezing weather in most sections have slowed down business considerably, and gallonage of the leading refiners has fallen away appreciably.

Many sections, particularly in New England, have been virtually snowbound. The heavy consumption which the refiners had looked for over the Washington's Birthday holiday proved a dream. High hopes had been held out for a pick-up in business, particularly in New York, where the event made a triple holiday over the week-end in many businesses.

Leading refiners continue to feature their premium grades of gasoline, and the prices for these special fuels are being maintained at regular levels, notwithstanding several marketers are now selling "colored" gasoline at prices equal to, or lower than, the regular posted quotation for ordinary tank wagon delivery quality motor fuel.

Leading automobile manufacturers are stressing that high compression gasolines should be used in their new model cars, and this development has greatly lessened the sales resistance which marketers had been experiencing on their premium grades. In a few instances, some of the smaller marketers have seen what they have regarded as the handwriting on the wall, and have eliminated "white" gasoline altogether, concentrating on the colored, and supposedly, doped fuels.

### Kerosene

There has been no let down in the demand for kerosene this week, and the market remains in steady position. Refiners are getting an active call for tank car shipments, and continue to quote water white at 8½ cents f.o.b. refineries, with the delivery charge in practically all instances bringing the quotation up to 9½ cents, delivered. The entire area having been in the grip of cold weather during the week, there has been a further increase in demand from jobbers.

Tank wagon business continues to run at high levels, and sales are reported to have shown substantial gains over the previous week, current gallonage being at record high levels for the season to date. Consumers are evidently using home kerosene heaters to a greater extent than for several years, and this is reflected in current sales totals.

### Lubricating Oils

With consumption at a low ebb for the season jobbers have taken advantage of the situation and are extending very little buying support to the wholesale market. While quotations for cylinder stocks remain unchanged at last week's levels, it is reported some shading is being indulged in on prompt shipment business, and it is safe to say quoted levels might be shaded a quarter to a half cent per gallon on all grades. Pennsylvania refiners have not moderated their price views, but it is expected in local trade circles some downward revision in the refinery basis will be necessary to revive buying interest.

With the spring buying movement just around the corner, however, refiners are making a determined effort to stabilize their market around current price levels. Some offerings are reported for delivery over March and first-half April at today's going prices, but there are very few buyers speculatively inclined at these levels.

Red and pale oils continue to move in moderate quantities with prices fairly well maintained on all grades. Stocks of lubs of all types at East Coast refineries are not excessive, and refiners are evidently basing their sales campaign on the assumption production will be held down to keep the statistical position of the market as favorable as at present.

### Gas Oil

Movement of gas oil has continued along fairly broad lines. The leading refiner is holding the market steady at 5¼ cents. Other refiners are quoting 28 plus oil at from 4¾ to 5 cents, with a little low grade oil available down to 4½ to 4⅝ cents. This latter, however, does not grade up much better than Diesel oil.

A good deal of the current gas oil buying is for the account of the large artificial gas companies, which are drawing heavily against resting contracts, and are also operating in the spot market to some extent.

### Fuel Oil

The outlook for bunker "C" is a little brighter. This oil is still greatly in oversupply, but refiners feel that in as much as they have been able to hold at $1.05 a barrel this far, there is a strong possibility of carrying the market over the spring season at this level. There are some holders with rather large supplies of bunker "C" in this territory, but thus far, instances of "cheating," as operators term price cutting, are few and far between, so far as the large steamship business is concerned.

Contracts with some of the larger marine interests give the buyer the right to stop drawing against the contract and purchase in the open market, whenever bunker "C" is available at 15 cents or more under the contract figure.

The stability of the existing market is illustrated by the fact that a large steamship company, in need of several thousand barrels for a special bunkering assignment this week, placed the order with a leading refiner at the full market price of $1.10 a barrel, barged alongside in New York harbor. In as much as the steamship lines, when in need of spot fuel, are noted for their "shopping" proclivities before placing actual business, it is pretty evident there is nothing in the way of price shading going on at present in this market.

Refiners here expect a further lightening in the movement of heavy fuel oil from Venezuela and Mexico during the next few months, and this is likewise considered a constructive development in the general market position.

### Diesel Oil

"Firm at $2.00 and plenty of business" is the way a leading refiner characterizes the Diesel oil market, and this summation appears to voice the opinion of the trade in general. A continued good marine movement has been noted, and refiners are carrying a substantial amount of contract business on their books for delivery throughout the year.

Diesel oil has been reported offeerd out at fairly low prices on the Pacific Coast, but with the tanker charter market firming, this oil cannot be laid down at North Atlantic ports under the existing price basis here.

### Paraffin Wax

The market for crude scale has rallied a little but the situation on fully refined grades is still rather soft. White crude scale, 122-124 a.m.p. has been traded in at 3¾ cents per pound this week, up one-fourth cent from last week's quotation. There is a fair amount of buying support on scale, due to recent slackness in trading, and the need of many consumers for replacements.

Both domestic and export buyers have remained out of the market for fully refined. On 120-122 a.m.p. the market is quoted at 5¼ cents, with 125-127 easy at 5.55 cents spot. The market for 130-132 a.m.p. is quotable at 6¼ cents, with 133-135 a.m.p. held at 7 cents, and 135-137 a.m.p. unchanged at 7⅝ cents per pound.

The market for fully refined is once again more or less an issue between the longs and the shorts. A number of dealers who are long on the market have been bolstering the situation with firm bids, and some actual buying, while short interests have been pounding the market consistently in an effort to force prices to lower levels. There have been some fairly liberal offerings of wax in East Coast territory this week, although the situation at the Gulf has firmed a little, with less distressed material available.

### Petrolatum

A moderate inquiry for white grades is reported, and the market remains in steady position. Export buying is still rather sluggish. Refiners' stocks are not excessive, and first hands are showing extremely firm price views on all grades. A little inquiry for dark green and amber for shipment abroad is reported, but the volume is held to small lots, as buyers' bids are generally under the levels at which the refiners are willing to book business.

### Export Markets

Continued inactivity in export gasoline has given rise to the report that quotations may shortly be revised downward on U. S. Motor, although thus far no decline has been put into effect. The only cargo reported put through in the open market was closed at a price under that established several weeks ago. There were few inquiries for bulk gasoline reported this week. The market for the cased product was fairly active for the period, with the price well held at 26.40 cents per gallon.

The current schedule on bulk gasoline prices is as follows:

| | Cts. gallon—N. Atlantic | Gulf |
|---|---|---|
| Navy | 9½ | 8½ |
| 60-62 390 endpoint | 10¾ | 9¾ |
| 64-66 375 endpoint | 11 | 10 |
| 66-68 aviation grade | 14 | 13 |

Bunker fuel oil at the Gulf is a little easier, with offerings reported at 67 cents a barrel, off 1 cent from the previous quotation. Trading was reported as quiet along routine lines.

Export buyers were bearish on paraffin wax, and their bids, which were under the market, were not finding general acceptance. Refiners were willing to grant slight concessions, but not as great as buyers were demanding, and the market was not yet on a trading basis.

Sales of lubricating oil in export channels were light, with the market quotably unchanged. Deliveries on old orders are still coming through, but shipments are about completed, and it is expected foreign buyers will be back in the market for replacements shortly.

Kerosene continues to move in a fair way on cased stocks, with the market holding at 17.65 cents for standard white, and 18.90 cents for water white. Bulk stocks were quiet, with the market remaining unchanged.

The bulk kerosene prices in the export markets are as follows:

| | Cts. gallon—N. Atlantic | Gulf |
|---|---|---|
| Prime white | 7¾ | 6¾ |
| Water white | 8¾ | 7¾ |

Little export inquiry for petrolatum made its appearance but prices were well

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# Practical Suggestions in Refining

By W. T. Ziegenhain

## Crude in Oklahoma City Field High in Lubricating Yield

Considerable attention is being focused on the crude being produced in the Oklahoma City Pool because of its high lubricating oil yield and its suitability in making steam refined cylinder stocks. The production of crudes of similar nature has shown a consistent decline in the Mid-Continent and this partly accounts for the relatively high prices maintained on cylinder stocks and bright stocks over the last year. Until more is known of the potential production of the new Oklahoma City crude it is not possible to say how this will effect the lubricating oil and cylinder stock market, but those who have made laboratory and commercial runs on the oil find it compares favorably with the Burbank crude which has been recognized as one of the best in the Mid-Continent for this purpose.

The color of the steam refined stock closely approximates that of an ordinary acid treated stock but at first showed a maximum pour point of 80 degrees Fahrenheit. Now, however, it has been found possible to change the operation so that more of the wax is removed during the reduction of the stock having a product with a pour point of 50 degrees to 60 degrees Fahrenheit and little if any change is noted in the color. This is being done by more slowly reducing the stock to the desired flash and viscosity and with less steam used in the still, allowing a portion of the wax to distill off. Tests on recent samples of the crude showed the following results:

Gravity, 38.0 to 38.4.
Per cent sulphur, trace.
Pour point, below 20 degrees Fahrenheit.

Plant yields on the crude run show a relatively low yield of gasoline considering its gravity with a proportionately high yield of kerosene. More than the ordinary yield of viscous neutral lubricating oil is shown and even when making a maximum yield of cylinder stock, a substantial yield of wax can be secured. Judging from the operations thus far a yield of from .8 to 1.2 per cent wax can be made when making a maximum

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## TO HOLD CONFERENCE ON SPECIFICATIONS MARCH 15

The American Petroleum Institute has called a conference to discuss the proposed revisions of the federal gasoline specifications with respect to U. S. Motor gasoline and a new grade to be known as "Premium" gasoline or "High Volatility." This meeting will be held in Washington on March 15 and all interested have been asked to send their names to Dr. R. P. Anderson, Technologist of the Institute at 250 Park Avenue, New York City.

The original proposal of the Federal Specifications Board was to establish two sets of gasoline specifications covering the motor grades of gasoline, each of which required a more volatile gasoline than in the past. Numerous objections were raised to this and several counter proposals were made by the different refinery and marketing organizations. It was apparent a joint, open meeting of all concerned would be the quickest way to reach an agreement and this was requested of the Federal Specifications Board by the American Petroleum Institute with the result the meeting has been set for March 15. The discussion of the various proposals, including the original request of the specifications board were discussed in The Oil and Gas Journal on February 21, page 136.

## KANSAS PROPOSES TO REGULATE QUALITY OF LUBRICATING OILS

A bill designed to regulate the quality of the lubricating oil sold in Kansas has been introduced in the House as Bill 265 by Representative Flaunders, which if passed, will require refiners to label every container of oil offered for sale in that state to show its grade, viscosity, resistance to emulsion, gravity and carbon residue. A penalty of from $25 to $100 is provided in case of violation of these provisions.

Refiners view the bill as impracticable in its entirety and in effect is discriminatory from a marketing standpoint. It is impracticable since several of the test procedures provided for in the bill do not give concordant results and this is recognized by the industry in general and improvements of the present procedure are being investigated. Most pronounced in this respect are the results secured when taking the emulsion test. It is common for two operators of equal ability in testing to get different results on the same oil. The manner in which the oil has been handled after it leaves the refinery has much to do with its resistance to emulsion properties and it would be an easy matter for the refiner to show on the specified tag the oil had an RE number better than the inspector would get on the same oil after it had been placed in other containers or mixed with other oils.

It is often the case that when two or more oils of excellent quality from the standpoint of their ability to resist emulsion, are blended together, the product shows a result lower than any one of the constituents. The emulsion properties of an oil may change with age and a test made at the time the oil was placed in the containers might give different results when made three months later when the oil was offered for sale at the station. Because of these factors unavoidably changing the results of the test, the inclusion of this test result and the struct enforcement of the provisions of the law appear impracticable.

### Carbon Residue Test

Similarly, the carbon residue test results are difficult to duplicate and the Conradson carbon residue test as in use today is not considered satisfactory by the industry. It is the best that has been found but it is still held as "tentative" by the American Society for Testing Materials.

Although no maximum carbon residue is specified for the respective oils the fact that results are shown on the tag will lead to an unjust discrimination between oils made in one section of the country over those made in another section, due entirely to the inherent characteristics of the respective crudes from which these lubricants are made. The Gulf Coast lubricants as a class show a lower carbon residue than the Pennsylvania or Mid-Continent lubricants. Similarly for the same viscosity, the Mid-Continent oils generally show a lower carbon residue than the Pennsylvania oils. In this respect, the results of the carbon residue test considered alone by the purchaser as an index of quality would unduly penalize the Pennsylvania and Mid-Continent oils. In addition, it remains questionable whether the Conradson carbon residue test may be used as an indication of the amount of carbon deposited on the cylinder heads when the oil is placed in actual use.

The gravity test results must also be shown on the tag yet it is generally accepted as a fact that the gravity of a lubricating oil is no indication of its quality or suitability in use. Like some of the other tests results it may discriminate against oils produced in certain sections unjustly. Pennsylvania lubricants have a substantially higher gravity than the Mid-Continent oils and in turn the Mid-Continent oils have a higher gravity than the California oils. This in itself means nothing when judging the performance of these oils when placed in actual operation yet because there remains a general feeling that the "high gravity" oils are "premium" oils, such a test, considered alone by the purchaser would be discriminatory.

Until the buying public is familiar with the relative values of the different inherent characteristics of one oil over another and can choose the oil with the full knowledge of the importance of these specifications it is the general belief such a law could do little good for the consumers.

### S.A.E. Numbers

In listing the different grades of lubricants the S.A.E. numbers are fairly closly followed, the difference being that a number 5 has been added as a very light lubricant and a number 70 added as a very heavy lubricant. The individual grades or numbers also cover a wider range of viscosities than S.A.E. numbers, the upper limit being raised in each case to close the gap left in the S.A.E. viscosity specifications.

Refiners also point out that over the last few years the manufacture of lubricating oils has been extremely competitive from the standpoint of quality and there has been a marked improvement in the quality of the oils being offered. Because of this tendency there are relatively few refiners making lubricating oils and those who are in the business have added materially to their equipment. Competition has and will do more to safeguard the quality of the oils than a periodic inspection by the states. The value of the inspection is thus automatically defeated and the cost of the inspection simply adds another burden onto the consumer.

### Provisions of Bill

The bill, in detail, is shown below as it was presented:

Section 1. That it shall be unlawful for any person, firm or corporation to sell or offer for sale in the State of Kansas, any automotive lubricating oil, unless there is marked on the container of such oil or on a tag or tags affixed thereto, a true statement of the nature and character of such oil, in accordance with the provisions of this act.

Section 2. There shall be marked on the container of such oils or on a tag affixed thereto, a true statement of the viscosity of such oil in accordance with the following schedule and as determined by use of the Saybolt standard universal viscosimeter and the method adopted as standard by the American Society for Testing Materials:

a. If the time required for 60 cubic centimeters of the oil when heated to a temperature of 130 degrees Fahrenheit to flow through the outlet tube in such viscosimeter, is less than 90 seconds, the number 5 shall be plainly labeled thereon.

b. If the time required for 60 cubic centimeters of the oil, when heated to a temperature of 130 degrees Fahrenheit to flow through such outlet tubes, is from 90 to 120 seconds, the number 10 shall be plainly labeled thereon.

c. If the time required for 60 cubic centimeters of the oil, when heated to a temperature of 130 degrees Fahrenheit to flow through such outlet tube, is from 120 to 185 seconds, the number 20 shall be plainly labeled thereon.

d. If the time required for 60 centimeters of the oil, when heated to a tem-

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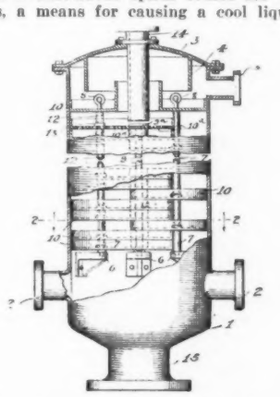
## Recent Patents

### EASILY REMOVABLE SECTION IN FRACTIONATING TOWER

1,670,118. Dephlegmator. Herbert S. Mabey, Chicago, Ill., assignor to Universal Oil Products Co., Chicago, Ill., a corporation of South Dakota. Filed March 24, 1920, Serial No. 368,223. Renewed August 13, 1926. 4 Claims. (Cl. 196—139.)

1. In a dephlegmator for condensing vapors, the combination with a tubular body having a removable top portion and vapor inlet and outlet port, of a plurality of perforated shallow receptacles having the shape of the sectors of a circle and mounted one above the other to form a continuous spiral course for vapors, a means for causing a cool liquid



to flow downward through the perforated receptacles and intermingle with the vapors, and means for drawing off the cooling liquid and condensed vapors.

### DECREASE OF VAPOR LOSSES

1,684,771. Process of Treating and Fractionating Cracking-Plant Vapors. Eugene H. Leslie and Edwin M. Baker, Ann Arbor, Mich. Filed May 11, 1923. Serial No. 638,176. 1 Claim. (Cl. 196—72.)

In a process of obtaining valuable products from mineral oil in the steps which comprise conducting superheated hydrocarbon vapors from a vapor phase cracking plant into the lower part of a fractionating column and effecting countercurrent contacting between such vapors and a liquid condensate, and refluxing to the upper part of said column a substantial portion of the vapors leaving said column, thereby providing liquid condensate for said counter-current contacting.

### HYDROGENATE SOLID RESIDUES

1,702,899. Process of Preparing Hydrocarbons. Frank A. Howard, Elizabeth, N. J., assignor to Standard Oil Development Co., a corporation of Delaware. Filed May 28, 1923. Serial No. 642,085. 4 Claims. (Cl. 196—53.)

1. The process of preparing hydrocarbons, which comprises subjecting a carbonaceous solid containing a substantial percentage of ash to a grinding action, to reduce the mixture to a fine state of subdivision, subjecting the ground mass to the action of a hydrocarbon oil and an aqueous liquid to produce separation of the bulk of the ash with the aqueous liquid, leaving as a residue carbonaceous material substantially devoid of ash and wetted with a hydrocarbon oil, and subjecting this last named material to the action of hydrogen at an elevated temperature and at a high pressure sufficient to cause reaction between the hydrogen and the carbonaceous mixture.

# Brief Items for Petroleum Refiners

## Consolidated Eason And Bolene Concerns To Expand Marketing

The Bolene Refining Co. and the Eason Oil Co., both of Enid, Okla., have been consolidated, according to an announcement by T. T. Eason, principal owner of the Eason company and president of the Bolene company. The new company, which will be a $4,000,000 concern, will continue the name of Bolene Refining Co.

The purpose of the merger is to consolidate refining and marketing interests with the view of further expansion in the company's market facilities. The Eason company owned 21 bulk stations and 100 filling stations in Oklahoma. The company owns six stations in Milwaukee, Wis.

The Bolene company also has marketing facilities and with the Eason properties will have 50 bulk stations and 250 filling stations. The company expects to build additional stations to take care of a large part of the output of the refinery at Enid. The refinery has a crude capacity of 7,000 bbls. daily with 3,000 bbls. cracking capacity. The company has a 100-mile pipe line system connecting the Garber, Tonkawa and Marshall-Lovell Fields to the refinery.

Mr. Eason also is president of the Healdton Oil & Gas Co.'s large independent producing company. Other officers of the company are James Montgomery, Enid, secretary, and D. M. Montgomery, Roy Montgomery and T. L. Wade all of Marlow, Okla., directors. V. E. Bolene, who formerly was general manager of the company, has sold his interest in the company to other stockholders.

## GLOBE TO INSTALL TWO LARGE CRACKING UNITS

The Globe Oil & Refining Co. of Delaware has closed a contract for two large Jenkins cracking units to be installed at its Cushing Okla., refinery. Each of the units will have a capacity of 2,000 bbls. daily.

The Globe company since last summer has been operating the skimming plant of the Sinclair Refining Co. located at Cushing. The plant operates with West Texas crude oil. When the cracking units are completed, charging stock will be secured from the skimming plant. The company also will improve the skimming plant operation and make other additions so as to secure an efficient skimming and cracking operation.

The Globe company was organized last year. I. A. O'Shaughnessy, president of the Globe Oil & Refining Co. of Oklahoma, operating a refinery at Blackwell and the Northwestern Refining Co. with a refinery at Tonkawa, Okla., is president and principal owner of the Delaware company. Sales offices in charge of A. E. Landsittel are maintained in the Philtower Building, Tulsa.

### P. M. MISKELL TO EUROPE

P. M. Miskell, manager of the refining and marketing divisions of the Empire Oil & Refining Co., Tulsa, will leave New York Friday on an European trip. Mr. Miskell will investigate foreign market conditions for the Cities Service Co., of which the Empire is a subsidiary. He expects to return to Tulsa about May 1.

### LOCKE RETURNS FROM EUROPE

CHICAGO, Feb. 23.—George Locke, vice president in charge of sales, Barnsdall Refineries, Inc., has returned from his trip abroad. He was obliged to hasten his return by an accident to Mrs. Locke which required surgical attention as promptly as possible.

## BEAUMONT PARKS DIES ON VENEZUELAN TRIP

Beaumont Parks, vice president in charge of manufacturing for the Standard Oil Co. of Indiana, died Sunday, February 24, at Maracaibo, Venezuela. Death was due to a cerebral hemorrhage. Mr. Parks was making an inspection trip of the South American properties owned by

Beaumont Parks

subsidiary companies of the Standard of Indiana when taken ill.

Mr. Parks spent his entire business career with the Standard Oil Co. Born in Cleveland, Ohio, in 1868, he graduated from Western Reserve University in 1890. He then entered the employ of the Standard, his first position being that of timekeeper at the Whiting, Ind., refinery. He held various departmental positions with the company over a period of several years until he was elected an executive of the company and placed in general charge of operations of all the company's refineries.

## NEW YORK ESTABLISHES GASOLINE SPECIFICATION

NEW YORK, Feb. 23.—A bill regulating gasoline specifications in New York State has been passed by both Houses of the Legislature and now awaits the signature of Governor Roosevelt. The law requires that all gasoline must at least meet Federal Government specifications for the U. S. Motor grade and in case of aviation gasoline as a minimum requirement must fulfill the government's specifications for the domestic aviation grade.

Oil companies have not been active either for or against the bill. Apparently it is aimed against the sellers of inferior grades of gasoline both in this city and other parts of the state. The bill if signed by the Governor becomes effectice June 1. Fines and imprisonment are provided and penalties for violation of the law.

### PENNSYLVANIA TAX 4 CENTS

Beginning July 1 of this year Pennsylvania motorists will pay at 4-cent gasoline tax instead of the present 3-cent tax, the increase to continue for a period of six months as an emergency levy to enable the highway construction department to continue their present program. After January 1, 1930, the tax will be automatically reduced to 3 cents and the revenue from the sale of license tag is expected to supply the needs of the department.

### JOINS MOORE COMPANY

Eugene C. Felt will take the place of his brother Howard E. Felt in the Dale W. Moore Petroleum Co. in Tulsa who left to become secretary in the Warren Petroleum Co., also of Tulsa. Eugene Felt has had both refinery operating and sales experience having joined the Empire Oil & Refining Co. in November, 1925, and after completing a preliminary training at the refinery was made assistant manager of the company's St. Louis office. In September, 1928, he left the Empire to open an office at Indianapolis, Ind., for the Petroleum Oils Corp. of Tulsa.

## I.O.M.A. PREPARING FOR ANNUAL MEETING

CHICAGO, Feb. 23.—The annual meeting and election of directors and officers of the Independent Oil Men of America will be held at the Stevens Hotel, this city, on March 25 and 26. Nominations will be made by mail and the candidates so chosen will be voted upon by sealed ballots. These will be counted on the first day of the meeting and on the following day there will be a meeting of the newly elected board of directors. There will be no outside exhibits but the organization will make a display of its own emblems, advertising devices and the like.

The Annual Marketing Congress and Exhibition will be held in Chicago on October 21, 22 and 23. At this meeting there will be a full display of equipment, devices and products.

C. Y. Hinchey, executive manager pro tem, states that Mr. Floyd, who is the present attorney of the organization, will be present at the March meeting and explain to the members the present situation regarding the securing of a registration of the Red Hat gasoline design as a trade-mark. The organization, Mr. Hinchey states, has not abandoned its efforts to secure such registration.

## EIGHTH ANNUAL MEETING OF MICHIGAN OIL MEN

CHICAGO, Feb. 23.—The eighth annual convention of the Michigan Oil Men's Association will be held at the Hotel Statler, Detroit, on March 7 and 8. There will be the annual election of officers and a display of equipment and products as usual at these meetings. The subjects listed for addresses and discussion have chiefly to do with the marketing of petroleum products. Profit making ideas well within reach of the average oil jobber will be presented by speakers who are masters of their subject. It is the plan of the management to make this part of the program well worth the attendance of all oil men. At least two speakers of national reputation will address the meeting with ideas that should prove an inspiration to those who are desirous of increasing the success and profits of their business. There will be entertainment features for the ladies and members are urged to bring their wives to the meeting. Forty-five exhibitors are planning to show their wares at this meeting.

### SHUT DOWN REFINERY

The Shell Eastern Petroleum Products, Inc., has shut down their newly acquired New England Oil Refining Co.'s plant at Fall River, Mass., and will prepare a survey as a basis for making a decision on whether to improve the refinery through the installation of more modern equipment or allow it to remain idle.

The harbor facilities of the plant will be used in handling the company's imports and exports and the tonnage is expected to greatly increase even though the refinery is not operated.

## SHELL MAY BECOME CRUDE OIL BUYER IN MICHIGAN

MUSKEGON, Mich., Feb. 25.—The Shell Petroleum Corp. (Roxana) is considering the laying of gathering lines to purchase the output of the Muskegon oil field, it was reported here today. Tests of the Dundee oil of the Muskegon Field have been made at the refineries of the Shell corporation and are understood to have proved successful. The Shell corporation more than two years ago purchased frontage on Muskegon Lake, one of the best harbors on the east shore of Lake Michigan. A permit to erect a bulk storage plant to make Muskegon the western Michigan distributing center for the corporation's gasoline, oil and other petroleum products at a cost of $50,000 was taken out at that time but never used.

It is now understood that the company is planning to lay gathering lines from the Muskegon oil field to this property, which adjoins the tank farm of the Standard Oil Co. of Indiana, to ship crude oil in lake tankers from here to its refinery at East Chicago, Ind. The company will open field offices in the Lyman Building on March 1 as the first step toward entering the Muskegon Field as an operating and pipe line company.

There were new developments during the week in regard to the proposed refinery here. E. L. Hughes and associates of Chicago have indicated that they are willing to erect a refinery provided they are given assurance of an adequate crude oil supply from producers in the field. Officials of the Johnson Oil & Refining Co., owners of a refinery at Cleveland, Okla., are still investigating the refinery qualities of Dundee crude oil which was recently condemned by the Standard Oil Co. of Indiana.

Up to February 7, the price for the Muskegon oil had averaged $1.25 per barrel at 38 gravity. On that date the price for Dundee oil produced from a depth of about 2,050 feet was cut to 50 cents a barrel by the Standard of Indiana. The amount accepted from the field also was reduced to 10 per cent of the capacity flow of any well.

Since the field was then producing about 7,500 bbls. a day from the Dundee pay sands and about 700 bbls. a day from the Traverse formation, an upper pay sand, daily pipe line runs of the Dixie Oil Co., operating subsidiary of the Standard company in the field, were cut to less than 1,500 bbls. Production of more than 50 Traverse wells has since been increased to more than 1,000 bbls. a day by new competition.

## MEXICAN EAGLE ENLARGES REFINERY AT MINATITLAN

NEW YORK, Feb. 23.—Mexican Eagle Oil Co., a Royal Dutch subsidiary, has initiated an extensive improvement program at its refinery at Minatitlan. Besides modernizing the plant, the company has awarded a contract to the National Dredging Co. for dredging a 26-mile channel 200 feet wide and 28 feet deep in the Coatzacoalcos River from its mouth at Puerto, Mexico, to the Minatitlan refinery. Upon completion of this channel, tankers of a maximum of 9,000 tons capacity will be able to berth at the refinery.

The company will concentrate its field development work in the State of Tabasco, where it is the owner of extensive acreage. An important drilling campaign will be undertaken and the company's tank farm at the Minatitlan refinery considerably enlarged.

This is the first major expansion program in Mexico for the past few years, most of the other large interests operating in that country having been cutting down operations.

# Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

*This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.*

*Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.*

*Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.*

*All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.*

*Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.*

## PROPANE, BUTANE AND ISOPENTANE

**Will you be good enough to send us a list of books on propane, butane and isopentane, as employed in commercial uses? —S. L. G.**

These are carbon compounds which are described in the books on organic chemistry, under the paraffins, or hydrocarbons of the methane series. The name paraffin was assigned to this group of carbon compounds because paraffin wax consists of higher members of the methane series. As a class they resist the action of strong reagents and have little affinity for other substances. The first member is methane, $CH_4$, and then in order to the fifth member—ethane, propane, butane and pentane, each increasing by the addition of $CH_2$. Starting with butane, it appears that different arrangements of the atomic groups are possible in addition to the normal straight chain, and these compounds, having the same composition, are indicated by the prefix iso, such as isobutane and isopentane.

Under normal condition the first four members of this series are gases. The boiling point, in Fahrenheit degrees, of propane is 44 below zero; butane, 12 degrees, and that of pentane is 82. The pentanes are the first members which may be liquefied at ordinary temperature and are found in the more volatile portion of commercial gasoline. When reduced to the liquid form they are colorless. The higher members of the series, starting with about 16 carbon atoms, are colorless solids. These properties suggest that there is little commercial use for these compounds and their chief value is for fuel purposes as constituents of natural gas. One development of the natural gasoline industry is the separation of propane, and under some circumstances a small quantity of butane, from natural gas in the liquid condition, which is bottled in cylinders and used as a fuel where a cheaper gas supply is not available.

You will find the articles listed below, from The Oil and Gas Journal, to contain more detailed information than that given in the reference books. The numbers are pages, and all, with the exception of the last, are for the year 1928.

Liquid Gas Fuel, 168, May 24; Marketing Liquefied Gas, 154, July 19; Physical Constants of Hydrocarbons, 120, October 4; Fractionation at Low Temperature, 148, October 18; High Pressure Fractionation Method, 251, October 18; Utilization of Propane and Butanes, 330, October 18; Distillation of Natural Gasoline 168, November 29; Liquefied Gas and the Oil Industry, 157, December 13; Methods for Vapor Pressure, 186, December 27; Specific Gravity Liquid Gas, 148, January 3, 1929.

## YIELDS OF GASOLINE BY SKIMMING AND CRACKING

**What is the increase in gasoline yield by the addition of a cracking unit over only skimming the same oil? Is cracking necessary on a basis of the gasoline required to satisfy the market demand?—H. L. W.**

Any comparison of the quantity of gasoline obtained by skimming and cracking should take into consideration the character of the crude oil and the kind of stock charged to the pressure still. There are a few crudes which contain a very large percentage of gasoline with but little heavy oil, and it may not be advisable to crack the residue. We have many heavy crudes that yield small quantities of gasoline by skimming but large percentages by the cracking operation. It is not necessary to study these exceptionable conditions but to confine the question to an oil of average quality.

A comparison of yields by skimming and cracking was given by H. W. Camp in The Oil and Gas Journal, page 30, February 21, 1929, from which the material below is quoted.

A few years ago, a Mid-Continent skimming plant using 35 degrees gravity crude, obtained 28 per cent gasoline and naphtha; 9 per cent kerosene, and the remaining yield gave gas oil and fuel oil. Figuring manufacturing cost, but not including sales, transportation, overhead and depreciation, the realization was $1.45 per barrel of crude. Today, a thoroughly modern and up-to-date skimming plant, having all latest equipment, shows a realization of $1.74 per barrel on the same basis. Thus, it is evident that progressive developments have taken place in the last two or three years when potential earnings have been increased about 20 per cent.

The largest single factor for the advancement of refinery practice is the pressure still. Add sufficient cracking capacity to a skimming plant, in order to convert the heavier fractions into gasoline, and the yield increases from 32 to 66 per cent. The realization from a barrel of crude, considering higher manufacturing expense, increases from $1.74 to $2.44 per barrel and the gallonage of gasoline from a barrel of crude is doubled. Without the advent of the pressure still it is doubtful if the refiner could have kept pace with the rapid and tremendous increase in gasoline consumption. Had the refiner attempted to increase his skimming facilities to meet the gasoline consumption, obviously the fuel oil market would have been glutted, hence demoralized. Three factors are responsible for the rapid and efficient development of the pressure still; (1) the necessity for securing ultimate yields for economic existence; (2) the necessity for increased gasoline recovery in order to stay abreast of the rapidly mounting consumption and (3) curtailment of the fuel oil market with consequent reduction of selling price. Wider natural gas distribution, particularly in the Middle West, together with determined competition from the coal industry, has materially affected the fuel oil situation, and added a very strong incentive toward the necessity of obtaining the maximum yield from a barrel of crude by cracking.

## ANALYSIS AND HEATING VALUE OF POWDERED COKE

**What is considered to be the proper fineness for pulverized petroleum coke? Can you furnish an average analysis, including a split up showing the percentage of each element? Is the powder difficult to handle and not easy to ignite?—P.L.O.**

There is a growing tendency to use both coal and coke in the pulverized form for fuel and the relative high heating value of petroleum coke, together with its low ash content, is favorable for fuel economy. The coke is usually pulverized so as to pass a 50-mesh screen and at least 50 per cent passes a 200-mesh screen.

The composition of petroleum coke varies with the character of the charging stock and the operation of the unit where it is made. The coke made from crude oil varies to a greater extent than that made from distillates and in the various pressure stills. The range of a number of analyses is indicated in the following:

| | Per cent |
|---|---|
| Moisture | trace to 8 |
| Volatile matter | 6/8 |
| Fixed carbon | 76/93 |
| Ash | 0.5/2 |
| Sulphur | 0.5/1.5 |
| Heating value | 14,000/15,200 B.t.u. |

The common elements are determined by combustion and reported as ultimate analysis. The analysis given below represents what may be termed a fair coke.

| | Per cent |
|---|---|
| Carbon | 92.0 |
| Oxygen | 1.3 |
| Hydrogen | 3.0 |
| Nitrogen | 1.6 |
| Sulphur | 0.7 |
| Ash | 1.4 |

Pulverized coke may be handled from storage and transported for some distance by means of tubes and pumps in a similar manner to a liquid, but the indications are that the more satisfactory and more economical practice is to reduce the coke by means of a unit pulverizer located near the burner and blow the powdered material direct to the burner.

While the low percentage of volatile matter suggests that petroleum coke may be difficult to ignite and will burn slowly, this is not true of the powdered form. All substances ignite much easier when in the form of powder than when in the solid condition. Pulverized coke ignites without difficulty and the flame may be controlled with much less need for adjustment than is commonly encountered when burning fuel oil.

## VISCOSITY AND CARBON RESIDUE OF LUBRICATING OILS

**Have you any information showing whether or not there is any relation between the viscosity of an oil and the amount of carbon that may be deposited in automobile cylinders? Is it true that more carbon is formed from a low viscosity oil than from a high viscosity oil? —M. P. C.**

Wilson and Barnard have discussed The Significance of Various Tests Applied to Motor Oils, see Proceeding of The American Society for Testing Materials, Volume 28, Part 2, 1928, and the material below appears to answer this question, as quoted from their paper.

"The A.S.T.M. Tentative Method of Test for Carbon Residue of Petroleum Products, see 1927 Book of A.S.T.M. Tentative Standards, page 386, determines the amount of coke-like material left behind when an oil is subjected to destructive distillation under specified conditions at atmospheric pressure. While the significance of this test has been the subject of considerable dispute, recent evidence indicates rather clearly that when using the same engine under carefully controlled conditions the carbon deposit in the combustion space is a function of this carbon residue value of the oil, though the carbon deposit increases much less rapidly than in direct proportion to this value. Of course, if the oils have different viscosities at the operating temperature the one with the lower viscosity tends to pass the rings in larger quantities and thus affect the amount of carbon formation. Furthermore, in actual service the condition of the engine, and particularly the type and fit of the rings, as well as changes in mixture ratio, operating temperature, oil viscosity, etc., will obscure or outweigh ordinary differences in carbon residue between two different oils. In spite of this, however, all other things being equal, an oil of lower carbon residue is less likely to give carbon troubles than an oil of similar viscosity and distinctly higher carbon residue. Of course, improvements in engine design and workmanship are tending to decrease oil consumption and minimize carbon formation."

Carbon residue is a matter of composition, so a low viscosity oil may contain more than a high viscosity oil, and, like other properties, depends very much on the source of the oil and the degree of refining.

## REFINING NATURAL GASOLINE MANUFACTURE AND TESTING METHODS

**Please advise me from what company I may obtain a handbook on petroleum refining and natural gasoline manufacture with laboratory testing methods?—T. R.**

The publishers listed below will be glad to send you a list of their books which describe petroleum refining and natural gasoline manufacture: McGraw-Hill Book Co., 370 Fifth Ave; John Wiley and Sons, The Chemical Catalog Co., 19 East Twenty-fourth Street, all New York City.

The methods for testing petroleum products, both tentative and standard, are to be found in the reports of Committee D-2, American Society for Testing Materials, Philadelphia, Pa. Technical Paper 323B, Bureau of Mines, United States Government Master Specification for Lubricants and Liquid Fuels and Methods for Sampling and Testing, may be obtained upon payment of 15 cents to the Superintendent of Documents, Government Printing Office, Washington, D. C.

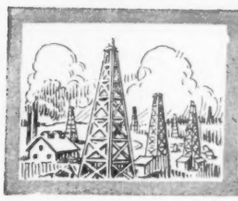
## RICARDO BOOKS AND ARTICLES—INTERNAL COMBUSTION ENGINE

**I would like particularly to secure the titles and publisher of books by Ricardo. Can you tell me where I may obtain this information?—C. H. S.**

Harry R. Ricardo is the well known authority on the internal combustion engine and the properties of motor fuels. He has made valuable contributions to our knowledge of detonation and was one of the first to devise methods for determining the knock rating of gasolines.

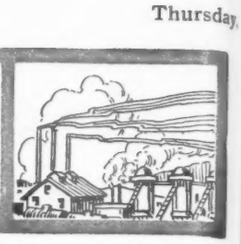
Ricardo has published The Internal Combustion Engine, two volumes; Engines of High Output, Thermodynamic Considerations; Gasoline Engines. These may be obtained through the publishers, D. Van Nostrand Co., New York City.

Numerous articles by Ricardo have appeared in The Automobile Engineer, Dorset House, Tudor St., London, and Engineering, Bedford St., Strand, London.



# REFINERY AND CRUDE PRICES

**Quotations on refined products are for interstate or export movement unless otherwise noted.**



## GASOLINE AND NAPHTHA

| OKLAHOMA (Group 3)— | Feb. 26 | | Feb. 19 | | Feb. 12 | |
|---|---|---|---|---|---|---|
| 50-52 450 endpoint | .06½ | .06⅝ | .06½ | .06⅝ | .06½ | .06⅝ |
| 56-58 450 endpoint | .06½ | .06⅝ | .06½ | .06¾ | .06½ | .06¾ |
| 58-60 450 endpoint | .06½ | .06¾ | .06½ | .06¾ | .06½ | .06¾ |
| *56-60 437 endpoint (U. S. Motor) | .0677 | | .0707 | | .0709 | |
| *60-62 437 endpoint | .0712 | | .0712 | | .0745 | |
| *60-62 400 endpoint | .0743 | | .0743 | | .0750 | |
| *64-66 375 endpoint | .0828 | | .0808 | | .0810 | |
| 68-70 360 endpoint | .08 | .08¼ | .07¾ | .08 | .07¾ | .08 |
| 64-66 437 endpoint (blend) | .06¾ | .07 | .06½ | .06¾ | .06½ | .06¾ |

*Weighted average prices February 25, 18 and 11, as reported by representative refiners. Sales to jobbers only.

| NORTH TEXAS— | | | | | | |
|---|---|---|---|---|---|---|
| 56-58 450 endpoint | .06¼ | .06½ | .06¼ | .06½ | .06¼ | .06½ |
| 58-60 450 endpoint | .06¼ | .06½ | .06¼ | .06½ | .06¼ | .06½ |
| 58-60 437 endpoint (U. S. Motor) | .06½ | .06¾ | .06½ | .06¾ | .06½ | .06¾ |
| 60-62 400 endpoint | .07¼ | | .07¼ | | .07 | .07¼ |
| 64-66 390 endpoint | .07½ | | .07½ | | .07¼ | .07½ |
| 64-66 375 endpoint | .07¾ | .08 | .07¾ | .08 | .07¾ | .08 |
| 68-70 360 endpoint | .08 | .08¼ | .08 | .08¼ | .08 | |
| 64-66 437 endpoint (blend) | .06½ | .06¾ | .06½ | | .06½ | |
| **NORTH LOUISIANA—** | | | | | | |
| 58-60 437 endpoint (U. S. Motor) | .07 | | .07 | | .07¼ | .07½ |
| **ARKANSAS—** | | | | | | |
| 58-60 437 endpoint (U. S. Motor) | .07 | | .07 | | .07¼ | |
| **PENNSYLVANIA—** | | | | | | |
| 52-54 Naphtha | .08¼ | .08½ | .08¼ | .08½ | .08½ | .08¾ |
| 54-56 Naphtha | .08¾ | .09 | .08¾ | .09 | .08¾ | .09 |
| 58-60 Gasoline | .09 | .09¼ | .09¼ | .09½ | .09¼ | .09½ |
| 60 Gasoline | .09¾ | .10 | .09¾ | .10 | .09¾ | .10 |
| 62 Gasoline | .10½ | .10¾ | .10½ | .10¾ | .10½ | .10¾ |
| 64 Gasoline | .10½ | .10¾ | .10½ | .10¾ | .10½ | .10¾ |
| **CALIFORNIA—** | | | | | | |
| 58-60 437 endpoint (U. S. Motor) domestic | .07 | .08 | .08 | .09 | .09 | .10 |
| **CHICAGO DISTRICT (Based on Group 3)—** | | | | | | |
| 50-52 450 endpoint (Naphtha) | .06½ | .06¾ | .06½ | .06¾ | .06½ | .06¾ |
| 56-58 450 endpoint | .06½ | .06¾ | .06½ | .06¾ | .06½ | .06¾ |
| 58-60 437 endpoint (U. S. Motor) | .06⅝ | .07 | .06½ | .07 | .06⅝ | .07 |
| 60-62 400 endpoint | .07¼ | .07½ | .07¼ | .07½ | .07¼ | .07½ |
| 64-66 375 endpoint | .07¾ | .08 | .07¾ | .08 | .08 | .08¼ |
| 68-70 360 endpoint | .08¼ | | .08¼ | .08½ | .08¼ | .08½ |
| 64-66 437 endpoint (blend) | .06½ | .06¾ | .06¼ | .06¾ | .06⅞ | .07⅛ |
| **GULF COAST (Export)—** | | | | | | |
| 58-60 (U. S. Motor) | .08½ | | .08½ | | .08½ | |
| 60-62 400 endpoint | .09½ | | .09½ | | .09½ | |
| 61-63 390 endpoint | .09¾ | | .09¾ | | .09¾ | |
| 64-66 375 endpoint | .10 | | .10 | | .10 | |

## NATURAL GASOLINE

| OKLAHOMA (Group 3)— | Feb. 26 | | Feb. 19 | | Feb. 12 | |
|---|---|---|---|---|---|---|
| Grade A, 72-79.9, 375 e.p., rec. 90% | .07¾ | | .07¾ | | .07⅞ | |
| Grade AA, 80-87.9, 375 e.p., rec. 90% | .07½ | | .07 | | .06¾ | |
| Grade B, 76-83.9, 375 e.p., rec. 85% | .06½ | | .06¼ | .06½ | .05½ | .05¾ |
| Grade BB, 84-92, 375 e.p., rec. 85% | .06¼ | | .06 | | .05¼ | |
| Grade C, 80-90, 375 e.p., rec. 78% | .05¾ | | .05¾ | | .05⅛ | .05¼ |
| **NORTH TEXAS—** | | | | | | |
| Grade A, 72-79.9, 375 e.p., rec. 90% | .07¾ | | .07⅞ | | .07⅞ | |
| Grade AA, 80-87.9, 375 e.p., rec. 90% | .07½ | | .07 | | .06¾ | |
| Grade B, 76-83.9, 375 e.p., rec. 85% | .06½ | | .06½ | | .05½ | |
| Grade BB, 84-92, 375 e.p., rec. 85% | .06¼ | | .06 | | .05¼ | |
| Grade C, 80-90, 375 e.p., rec. 78% | .05¾ | | .05¾ | | .05¼ | |
| **NORTH LOUISIANA—** | | | | | | |
| Grade AA, 80-87, 375 e.p., rec. 90% | .08 | | .07¼ | | .06⅞ | .07 |
| Grade BB, 84-92, 375 e.p., rec. 85% | .07 | | .06 | | .05½ | |
| Grade C, 80-92, 375 e.p., rec. 78% | .06¼ | | .05¾ | | .05⅜ | .05½ |
| **CALIFORNIA—** | | | | | | |
| 75-78, 375-390 endpoint | .06 | .06½ | .07¼ | .07¾ | .07⅜ | .08¼ |
| **CHICAGO DISTRICT (Based on Group 3)—** | | | | | | |
| Grade A, 72-79.9, 375 e.p., rec. 90% | .07¾ | | .07¾ | | .07⅜ | |
| Grade AA, 80-87.9, 375 e.p., rec. 90% | .07½ | | .06¾ | .07 | .06¾ | |
| Grade B, 76-83.9, 375 e.p., rec. 85% | .06½ | | .06¼ | | .05½ | .05¾ |
| Grade BB, 84-92, 375 e.p., rec. 85% | .06¼ | | .05¾ | .06 | .05½ | |
| Grade C, 80-90, 375 e.p., rec. 78% | .05¾ | | .05¾ | | .05¼ | |

## BURNING OIL

| OKLAHOMA (Group 3)— | Feb. 26 | | Feb. 19 | | Feb. 12 | |
|---|---|---|---|---|---|---|
| 41-43 water white Kerosene | .05½ | .05⅝ | .05¼ | .05½ | .05¼ | .05⅜ |
| 42-44 water white Kerosene | .06 | .06¼ | .05¾ | .06 | .05¾ | .06 |
| **NORTH LOUISIANA—** | | | | | | |
| 41-43 water white Kerosene | .06¼ | .06½ | .06 | .06¼ | .06 | |
| **NORTH TEXAS—** | | | | | | |
| 41-43 water white Kerosene | .05¾ | .05½ | .05¾ | .05½ | .05¼ | .05½ |
| 40-42 water white Kerosene | .05¼ | .05½ | .05¼ | .05½ | .05¼ | |
| **ARKANSAS—** | | | | | | |
| 41-43 water white Kerosene | .06¼ | .06½ | .06 | .06¼ | .05¾ | .06 |
| **PENNSYLVANIA—** | | | | | | |
| 43 Kerosene prime white | .06¾ | .07 | .06¾ | .07 | .06¾ | .07 |
| 45 Kerosene water white | .07 | .07¼ | .07 | .07¼ | .07 | .07¼ |
| 46 Kerosene water white | .07½ | .07¾ | .07½ | .07¾ | .07½ | .07¾ |
| 47 Kerosene water white | .07¾ | .08 | .07¾ | .08 | .07¾ | .08 |
| 300 Mineral Seal | .07 | .07¼ | .07 | .07¼ | .07 | .07¼ |
| **CALIFORNIA—** | | | | | | |
| 38-40 water white Kero. (high-burning test) | .06 | .06½ | .06 | .06½ | .06 | .06½ |
| Engine distillate, 43-44, 445 endpoint | .06½ | .07 | .06½ | .07 | .07½ | .08 |
| Engine distillate, 42-44, 480 endpoint | .06 | .06½ | .06 | .06½ | .07 | .07½ |
| **CHICAGO DISTRICT (Based on Group 3)—** | | | | | | |
| 41-43 water white Kerosene | .05⅝ | .05¾ | .05⅜ | .05½ | .05¼ | .05⅝ |
| 42-44 water white Kerosene | .06 | .06¼ | .05¾ | .06 | .05¾ | .06 |
| **GULF COAST (Export)—** | | | | | | |
| 41-43 prime white | .06¾ | | .06¾ | | .06¾ | |
| 41-43 water white | .07¾ | | .07¾ | | .07¾ | |

## FUEL OILS

| OKLAHOMA (Group 3)— | Feb. 26 | | Feb. 19 | | Feb. 12 | |
|---|---|---|---|---|---|---|
| *Below 18 Fuel Oil, per bbl. | .52½ | .55 | .50 | .55 | .50 | .55 |
| *18-22 Fuel Oil, per bbl. | .60 | .65 | .55 | .57½ | .55 | .57½ |
| 22-26 Fuel Oil, per bbl. | .65 | .70 | .62½ | .65 | .62½ | .65 |
| 24-26 Fuel Oil, per bbl. | .67½ | .75 | .65 | .67½ | .65 | .67½ |
| 26-30 Fuel Oil, per bbl. | .85 | .95 | .75 | .80 | .75 | .80 |
| 28-30 Fuel Oil, per bbl. (industrial) | .95 | 1.00 | .87½ | .90 | .85 | .87½ |
| 28-30 Fuel Oil, per bbl. (zero cold test) | 1.15 | 1.20 | 1.05 | 1.10 | 1.00 | 1.05 |
| 32-36 Gas Oil (industrial) | .02⅞ | .03⅛ | .02¾ | .03⅛ | .02¾ | .03 |
| 32-36 Gas Oil (straw color) | .03⅛ | .03⅜ | .03 | .03¼ | .02⅞ | .03⅛ |
| 36-38 Distillate | .04⅛ | .04⅜ | .03⅞ | .04⅛ | .03⅝ | .03⅞ |
| 38-40 Straw Distillate | .04⅜ | .04⅝ | .04 | .04¼ | .03¾ | .04⅛ |

*Small quantities of 60 to 70 cold test available as low as 50 cents.

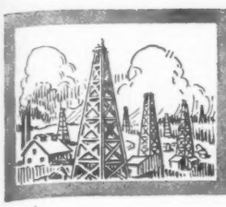
| NORTH TEXAS— | | | | | | |
|---|---|---|---|---|---|---|
| Below 20 Fuel Oil | .60 | .62½ | .60 | .62½ | .60 | .62½ |
| 24-26 Fuel Oil, per bbl. | .65 | .67½ | .65 | .67½ | .62½ | .67½ |
| 32-36 Gas Oil (straw) | .03 | .03¼ | .02¾ | .03¼ | .02¾ | .03 |
| 38-40 Straw Distillate | .04¼ | .04½ | .03⅞ | .04⅛ | .03¾ | .04 |
| **NORTH LOUISIANA—** | | | | | | |
| 18-20 Fuel Oil, per bbl. | .70 | .75 | .70 | .75 | .70 | .80 |
| 32-36 Gas Oil | .03½ | | .03½ | | .03½ | |
| **ARKANSAS—** | | | | | | |
| 33-36 Distillate | .03¾ | .04 | .03½ | .04 | .03¼ | .03½ |
| 32-36 Gas Oil (straw) | .03½ | | .03¾ | .03½ | .03¼ | |
| 16-22 Refinery Fuel Oil, per bbl. | .70 | .75 | .70 | .75 | .70 | .75 |
| **GULF COAST (South Texas)—** | | | | | | |
| Gas Oil | .03½ | .04 | .04 | .04¼ | .04 | .04½ |
| Bunker C Fuel (cargo lots), per bbl. | .72½ | .75 | .65 | .70 | .65 | .70 |
| Bunker C Fuel (small lots) | .95 | 1.00 | .85 | .90 | .85 | .90 |
| **PENNSYLVANIA—** | | | | | | |
| 30-34 Fuel Oil | .04½ | .04¾ | .04⅝ | .04½ | .04½ | .04⅝ |
| 36-40 Fuel Oil | .04¾ | .05 | .04⅝ | .04¾ | .04⅝ | .04⅞ |
| **CALIFORNIA—** | | | | | | |
| 33-36 Distillate | .03¾ | .04 | .03¾ | .04 | .03¾ | .04 |
| 27-32 Distillate | .03 | .03½ | .03 | .03½ | .03 | .03½ |
| 15-20 Fuel Oil, Bunker (at tide water) | .70 | .85 | .70 | .85 | .70 | .85 |
| 15-20 Fuel Oil (cargo lots), per bbl. | .70 | .85 | .70 | .85 | .70 | .85 |
| 27 plus Diesel, per bbl. | .95 | 1.05 | .95 | 1.05 | .95 | 1.05 |
| **CHICAGO DISTRICT (Based on Group 3)—** | | | | | | |
| 22-26 Fuel Oil, Group 3, bbl. | .65 | .70 | .65 | .67½ | .62½ | .67½ |
| 18-22, per bbl. | .65 | .70 | .55 | .57½ | .55 | .57½ |
| 16-20 Smackover, per bbl. | .90 | .95 | .87½ | .90 | .87½ | .90 |
| 28-30 Fuel Oil (zero) | 1.20 | 1.25 | 1.10 | 1.15 | 1.00 | 1.10 |
| 32-36 Gas Oil, zero | .03¼ | .03½ | .03¼ | .03½ | .03¼ | .03⅜ |
| 32-36 Gas Oil (industrial) | .03 | .03¼ | .02⅞ | .03⅛ | .02⅞ | |
| 36-38 Distillate | .04¼ | .04⅜ | .04 | .04⅛ | .03¾ | .03⅞ |
| 38-40 Straw Distillate | .04⅜ | .04½ | .04¼ | .04½ | .03⅞ | .04 |

## LUBRICATING OIL AND WAX

| OKLAHOMA (Group 3)— | Feb. 26 | | Feb. 19 | | Feb. 12 | |
|---|---|---|---|---|---|---|
| 100 vis., 2 color, 20-25 cold test | .06 | .06½ | .06 | .06½ | .06 | .06½ |
| 100 vis., 3 color, 20-25 cold test | .05¼ | .05½ | .05¼ | .05½ | .05¼ | .05½ |
| 150 vis., 3 color, 20-25 cold test | .07¼ | .07½ | .07¼ | .07½ | .07¼ | .07½ |
| 150 vis., 4 color, 20-25 cold test | .07 | .07¼ | .07 | .07¼ | .07 | .07¼ |
| 180 vis., 3 color, 23-28 cold test | .08¾ | .09 | .08¾ | .09 | .08¾ | .09 |
| 180 vis., 4 color, 23-28 cold test | .08¼ | .08¾ | .08¼ | .08¾ | .08¼ | .08¾ |
| 180 vis., 5 color, 23-28 cold test | .08¼ | .08½ | .08¼ | .08½ | .08¼ | .08½ |
| 200 vis., 3 color, 23-28 cold test | .09¼ | .09½ | .09¼ | .09½ | .09¼ | .09½ |
| 200 vis., 4 color, 23-28 cold test | .09 | .09¼ | .09 | .09¼ | .09 | .09¼ |
| 200 vis., 5 color, 23-28 cold test | .08½ | .08¾ | .08½ | .08¾ | .08½ | .08¾ |
| 240 vis., 3 color, 25-30 cold test | .12¼ | .12½ | .12¼ | .12½ | .12¼ | .12½ |
| 240 vis., 4 color, 25-30 cold test | .11¾ | .12 | .11¾ | .12 | .11¾ | .12 |
| 240 vis., 5 color, 25-30 cold test | .10¾ | .11 | .10¾ | .11 | .10¾ | .11 |
| 280 vis., 3 color, 25-30 cold test | .13¾ | .14 | .13¾ | .14 | .13¾ | .14 |
| 280 vis., 4 color, 25-30 cold test | .12¾ | .13 | .12¾ | .13 | .12¾ | .13 |
| 280 vis., 5 color, 25-30 cold test | .11¾ | .12 | .11¾ | .12 | .11¾ | .12 |
| Cylinder Stocks: | | | | | | |
| 600, steam refined, light green | .09 | .10 | .09 | .10 | .09 | .10 |
| 600, steam refined, dark green | .08 | | .08 | | .08 | |
| 190-200 vis., D color Bright Stock | .33 | .35 | .33 | .35 | .33 | .35 |
| 150-160 vis., D color Bright Stock | .30 | .32 | .30 | .32 | .30 | .32 |
| 150-160 vis., E color Bright Stock | .28 | .30 | .28 | .30 | | |
| Waxes: | | | | | | |
| 124-126 White Crude Scale Wax | .03⅞ | .04¼ | .03⅞ | .04¼ | .03⅞ | .04⅜ |
| **PENNSYLVANIA—** | | | | | | |
| 34 Neutral | .07½ | .07¾ | .07½ | .07¾ | .07½ | .07⅞ |
| 34 Sundebloom | .07¾ | .08 | .07¾ | .08 | .07¾ | .08 |
| 36 Miners' Neutral | .07¼ | .07½ | .07¼ | .07½ | .07¼ | .07½ |
| 150, 3 color | .21½ | .22 | .21½ | .22 | .21½ | .22 |
| 180, 3 color | .25½ | .26 | .25½ | .26 | .25½ | .26 |
| 200, 3 color | .28 | .28½ | .28 | .28½ | .28 | .28½ |
| 220, 3 color | .30 | .30½ | .30 | .30½ | .30 | .30½ |
| 600, steam refined | .21½ | .22 | .22 | .22½ | .22 | .22½ |
| 635, steam refined | .27½ | .28 | .27½ | .28 | .27½ | .28 |
| 650, steam refined | .27½ | .28 | .27½ | .28 | .27½ | .28 |
| 600, Pennsylvania flash | .31½ | .32 | .31½ | .32 | .31½ | .32 |
| 630, Pennsylvania flash | .36½ | .37 | .36½ | .37 | .36½ | .37 |
| 600, E filtered | .25½ | .26 | .25½ | .26 | .25½ | .26 |
| 600, D filtered | .29½ | .30 | .29½ | .30 | .29½ | .30 |
| 550, E filtered | .15½ | .16 | .15½ | .16 | .15½ | .16 |
| 550, D filtered | .21½ | .22 | .21½ | .22 | .21½ | .22 |
| Pennsylvania Bright Stock | .39 | .40 | .39 | .40 | .39 | .40 |
| *122-124 White Crude Scale Wax | .04¼ | | .04¼ | | .04¼ | |
| *124-126 White Crude Scale Wax | .04¾ | | .04¾ | | .04¾ | |

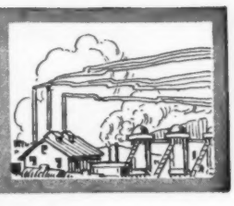
*At New York.

| GULF COAST (South Texas)— | | | | | | |
|---|---|---|---|---|---|---|
| No. 2 color, 100 vis., pale oil | .06½ | .07 | .06½ | .07 | .06½ | .07 |
| No. 3 color, 200 vis., pale oil | .09 | .10 | .09 | .10 | .09 | |
| No. 3 color, 300 vis., pale oil | .10½ | .11 | .10½ | .11 | .10½ | .11 |
| No. 3½ color, 500 vis., pale oil | .11½ | .12½ | .11½ | .12½ | .12 | |
| No. 4 color, 750 vis., pale oil | .14 | .15 | .14 | .15 | .15 | .15½ |
| No. 5 to 6 color, 200 vis., red oil | .07½ | .08½ | .07½ | .08½ | .08¼ | .08½ |
| No. 5 to 6 color, 300 vis., red oil | .08½ | .09½ | .08½ | .09½ | .09¼ | .09½ |
| No. 5 to 6 color, 500 vis., red oil | .09½ | .10½ | .09½ | .10½ | .10¼ | .10½ |



# REFINERY AND CRUDE PRICES

**Quotations on refined products are for interstate or export movement unless otherwise noted.**



| | | | | | | |
|---|---|---|---|---|---|---|
| No. 5 to 6 color, 750 vis., red oil | .13 | .14 | .13 | .14 | .13¼ | .13½ |
| No. 2½ color, 200 vis., pale filtered | .11½ | | .11½ | | .11½ | |
| No. 2½ color, 300 vis., pale filtered | .13 | .13¼ | .13 | .13¼ | .13 | .13¼ |
| No. 2½ color, 500 vis., pale filtered | .15½ | .16 | .15½ | .16 | .15½ | .16 |
| No. 2½-3 color, 750 vis., pale filtered | .18 | .20 | .18 | .20 | .18 | .20 |
| **CALIFORNIA—** | | | | | | |
| 130 vis., 2½-3 color | .10¼ | .10½ | .10¼ | .10½ | .10¼ | .10½ |
| 200 vis., 2½-3 color | .11½ | .11¾ | .11½ | .11¾ | .11½ | .11¾ |
| 300 vis., 3-3½ color | .13 | .13¼ | .13 | .13¼ | .13 | .13¼ |
| 350 vis., 3½-4 color | .13½ | .13¾ | .13½ | .13¾ | .13½ | .13¾ |
| 400 vis., 3½-4 color | .15 | .15½ | .15 | .15½ | .15 | .15½ |
| Red Neutral: | | | | | | |
| 200 vis., 4½-5 color | .11 | .11¼ | .11 | .11¼ | .11 | .11¼ |
| 300 vis., 5-6 color | .12 | .12¼ | .12 | .12¼ | .12 | .12¼ |
| 400 vis., 5-6 color | .13¼ | .14 | .13¼ | .14 | .13¼ | .14 |
| 500 vis., 4½-5 color | .15¼ | .15½ | .15¼ | .15½ | .15¼ | .15½ |
| 500 vis., 5-6½ color | .15 | .15¼ | .15 | .15¼ | .15 | .15¼ |
| 600 vis., 6½ plus color | .16 | .16¼ | .16 | .16¼ | .16 | .16¼ |

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

## NEW YORK (BAYONNE) REFINERY PRICES

| | Feb. 26 | Feb. 19 | Feb. 12 |
|---|---|---|---|
| Gasoline, U. S. Motor, 58-60, 437 | .09½ | .10 | .10 |
| Kerosene, water white, 41-43 | .08½ | .08½ | .08½ |
| *Fuel Oil, Bunker "C" 14-16, per bbl. | 1.05 | 1.05 | 1.05 |
| †Fuel Oil, Diesel, 28-30, per bbl. | 2.00 | 2.00 | 2.00 |
| Gas Oil, 32-36 gravity | .05¼ | .05¼ | .05¼ |
| 25 pale Paraffin Oil | .11¾ | .11¾ | .11¾ |
| 28 pale Paraffin Oil | .07½ | .07½ | .07½ |
| 285 red Paraffin Oil | .11½ | .11½ | .11½ |
| 250 red Paraffin Oil | .11 | .11 | .11 |
| 225 red Paraffin Oil | .09½ | .09½ | .09½ |
| 200 red Paraffin Oil | .09 | .09 | .09 |
| Refined Wax: | | | |
| 120-122 a.m.p., per lb. | .05¼ | .05⅛ | .05⅛ |
| 125-127 a.m.p., per lb. | .0555 | .05⅝ | .05⅝ |
| 130-132 a.m.p., per lb. | .06¼ | .06⅜ | .06⅜ |
| 133-135 a.m.p., per lb. | .07 | .07¼ | .07¼ |
| 135-137 a.m.p., per lb. | .07⅝ | .07⅝ | .07⅝ |
| Petrolatum in barrels, carload lots, per lb.: | | | |
| Dark green | .02 | .02 | .02 |
| Amber | .03½ | .03½ | .03½ |
| Extra amber | .03¾ | .03¾ | .03¾ |
| Cream | .06½ | .06½ | .06½ |
| Lily white | .07½ | .07½ | .07½ |
| Snow white | .08½ | .08½ | .08½ |

*Lighterage, 5.0c a barrel extra. †Lighterage, 6.5c a barrel extra.

## NEW YORK (BAYONNE) EXPORT PRICES

| | Feb. 26 | Feb. 19 | Feb. 12 |
|---|---|---|---|
| Gasoline, U. S. Motor, 58-60, 437, in cases | .2640 | .2640 | .2640 |
| Kerosene, prime white, bulk | .07¾ | | |
| Kerosene, prime white, bulk | .08¾ | | |
| Kerosene, standard white, in cases | .1765 | .1765 | .1765 |
| Kerosene, water white, in cases | .1890 | .1890 | .1890 |
| 600, steam refined cylinder stocks, in bbls. | .30½ .31 | .30½ .31 | .30½ .31 |
| 635, steam refined | .32 .33 | .32 .33 | .32 .33 |
| 650, steam refined | .36 .37 | .36 .37 | .36 .37 |
| 600, Pennsylvania flash | .38 .39 | .38 .39 | .38 .39 |
| 630, Pennsylvania flash | .43 .44 | .43 .44 | .43 .44 |
| 600, Warren E | .34 .35 | .34 .35 | .34 .35 |
| 600, Oil City E | .33 | .33 | .33 |
| Light 140-150 Bright Stocks | .46 | .46 | .46 |
| Dark 140-150 Bright Stocks | .45 | .45 | .45 |

## LOS ANGELES EXPORT PRICES

| | Feb. 26 | Feb. 19 | Feb. 12 |
|---|---|---|---|
| Kerosene, water white | .05½ .06 | .05½ .06 | .05½ .06 |
| U. S. Motor Gasoline, 53-55, 437 e.p. | .07 .07⅓ | .07¼ .07¾ | .07½ .08 |

## CRUDE OIL PRICES

### OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Corsicana heavy (January 11) ..... .80
Other fields ..... See gravity table

*Posted by Magnolia Petroleum Co.

### TEXAS PANHANDLE

Carson and Hutchinson

| | |
|---|---|
| Below 32 gravity | $ .72 |
| 32-32.9 | .78 |
| 33-33.9 | .81 |
| 34-34.9 | .84 |
| 35-35.9 | .87 |
| 36-36.9 | .90 |
| 37-37.9 | .93 |
| 38-38.9 | .96 |
| 39-39.9 | .99 |
| 40-40.9 | 1.02 |
| 41-41.9 | 1.05 |
| 42-42.9 | 1.08 |
| 43-43.9 | 1.11 |
| 44 and above | 1.14 |

### Wheeler County

| | |
|---|---|
| Below 30 gravity | $ .70 |
| 30-30.9 | .76 |
| 31-31.9 | .82 |
| 32-32.9 | .88 |
| 33-33.9 | .91 |
| 34-34.9 | .94 |
| 35-35.9 | .97 |
| 36-36.9 | 1.00 |
| 37-37.9 | 1.03 |
| 38-38.9 | 1.06 |
| 39-39.9 | 1.09 |
| 40-40.9 | 1.12 |
| 41-41.9 | 1.15 |
| 42-42.9 | 1.18 |
| 43-43.9 | 1.21 |
| 44 and above | 1.24 |
| Gray County | See gravity table |

Humble Oil & Refining Co., and Magnolia Petroleum Co., January 24, 1929.

### WEST TEXAS

Iatan* ..... Same as North Texas
Crane-Upton-Crockett, Pecos, Winkler and Glasscock (July 26)‡ ..... $ .65
Chalk† ..... .65
Mitchell† ..... .65

*Includes Howard County and Westbrook Fields. Marland Refining Co. pays $1.05 for Howard County crude, effective May 21.
†Magnolia Petroleum Co., January 26, 1929.
‡Posted by Humble Oil & Refining Co., Magnolia Petroleum Co., and Gulf Pipe Line Co.

### ARKANSAS-NORTH LOUISIANA

Cotton Valley (Below 36 gravity April 11) ..... $ .75
Bellevue ..... 1.20
Urania (Oct. 16, 1928) ..... .90
East El Dorado (March 16, 1927) ..... 1.00
Other fields ..... See gravity table

*Cotton Valley crude above 36 gravity takes same gravity price schedule as shown for North Louisiana and Arkansas crude in Mid-Continent gravity price table.
Note—Cotton Valley and Bellevue posted by Standard Oil Co. of Louisiana, Louisiana Oil Refining Co., Gulf Refining Co., and Magnolia Petroleum Co.; Urania posted by Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co., Gulf Refining Co.

### GULF COAST

(Goose Creek, Hull, Liberty, West Columbia, Orange Boling, Sour Lake, Humble Sugarland, Raccoon Bend, High Island, Pierce Junction and Spindletop.)

| | |
|---|---|
| Grade A (March 14)* | $1.20 |
| Grade B | See gravity table |
| Jennings, La. (March 14)† | $1.05 |

(Continued on Page 142)

## CRUDE OIL GRAVITY TABLE

| Gravity— | Okla., Kans. N. C. Tex. 1 | No. La. and Arkansas 2 | Smackover, Ark. 3 | Stephens, Ark. 4 | Gray County (Texas Panhandle) 5 | Salt Creek, Wyo. 6 | Grade B & Light Crude (G. Coast) 7 | Somerset (South Central Texas) 8 |
|---|---|---|---|---|---|---|---|---|
| 24 and above | .... | .... | .90 | .... | .... | .... | .... | .... |
| Below 24 | .... | .... | .75 | .... | .... | .... | .... | .... |
| Below 25 | .60 | .... | .... | .... | .... | .... | 1.05 | .... |
| 25 to 25.9 | .66 | .... | .... | .... | .... | .... | 1.07 | .... |
| Below 26 | .... | .... | .... | .... | .... | .... | .... | .... |
| 26 to 26.9 | .72 | .... | .... | .... | .... | .... | 1.09 | .... |
| 27 to 27.9 | .78 | .... | .... | .... | .... | .... | 1.11 | .... |
| Below 28 | .... | .78 | .... | .70 | .69 | .... | .... | .... |
| 28 to 28.9 | .84 | .84 | .... | .74 | .69 | .... | 1 13 | .... |
| 29 to 29.9 | .90 | .90 | .... | .78 | .75 | .90 | 1.15 | .... |
| 30 to 30.9 | .96 | .96 | .... | .82 | .81 | .96 | 1.17 | .... |
| 31 to 31.9 | 1.02 | 1.02 | .... | .86 | .87 | 1.02 | 1.19 | .... |
| 32 to 32.9 | 1.08 | 1.08 | .... | .90 | .93 | 1.08 | 1.21 | 1.05 |
| 33 to 33.9 | 1.11 | 1.13 | .... | .... | .96 | 1.11 | 1.23 | 1.07 |
| 34 to 34.9 | 1.14 | 1.14 | .... | .... | .99 | 1.14 | 1.25 | 1.09 |
| 35 to 35.9 | 1.17 | 1.17 | .... | .... | 1.02 | 1.17 | 1.27 | 1.11 |
| 36 to 36.9 | 1.20 | 1.20 | .... | .... | 1.05 | 1.20 | .... | 1.13 |
| 37 to 37.9 | 1.23 | 1.23 | .... | .... | 1.08 | 1.23 | .... | 1.15 |
| 38 to 38.9 | 1.26 | 1.26 | .... | .... | 1.11 | .... | .... | 1.17 |
| 39 to 39.9 | 1.29 | 1.29 | .... | .... | 1.14 | .... | .... | .... |
| 40 to 40.9 | 1.32 | 1.32 | .... | .... | 1.17 | .... | .... | .... |
| 41 to 41.9 | 1.35 | 1.35 | .... | .... | 1.20 | .... | .... | .... |
| 42 to 42.9 | 1.38 | 1.38 | .... | .... | 1.23 | .... | .... | .... |
| 43 to 43.9 | 1.41 | 1.41 | .... | .... | 1.26 | .... | .... | .... |
| 44 and above | 1.44 | 1.44 | .... | .... | 1.29 | .... | .... | .... |

Column 1, Note—Magnolia Petroleum Co. posted schedule January 24, 1929, making price below 26 gravity 60 cents per barrel, 26-26.9 gravity 65 cents, 27-27.9 gravity 70 cents, 28-28.9 gravity 75 cents, 29-29.9 gravity 80 cents, 30-30.9 gravity 90 cents and 31-31.9 gravity $1, with balance of the price schedule as shown.

Oklahoma—Humble Oil & Refining and Carter Oil Co. January 24, Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., The Texas Company, January 25.

North Central Texas—Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs (Southwest Texas, Iatan and Panola, Iatan posted a flat price of 93 cents by Magnolia on January 14, 1928), Currie, Nocona and Moran. Prairie, Sinclair and Gulf, The Texas Company, January 25, Humble Oil & Refining Co., January 24.

Kansas—Prairie, Sinclair and The Texas Company, January 25; Carter, January 24.

Column 2—Arkansas and North Louisiana—[Caddo, Bull Bayou, Crichton, DeSoto, Haynesville, Homer, and El Dorado only]. Standard Oil Co. of Louisiana, Louisiana Oil Refining Corp., Gulf Refining Co., Magnolia Petroleum Co., schedule effective January 26 applies to Pine Island, Haynesville, Bull Bayou, Louisiana, and ElDorado, Ark., light crude. The Texas Company January 24 posted prices below 28 gravity at 6 cents differential per degree with minimum of 60 cents for all below 24 gravity.

Column 3—February 6, Louisiana Oil Refining Corp.; February 7, Standard Oil Co. of Louisiana, The Texas Company, Gulf Refining Co., Magnolia Petroleum Co., and on February 10, Atlantic Oil Producing Co.

Column 4—Atlantic Oil Producing Co., Louisiana Oil Refining Corp., January 28.

Column 5—Humble Oil & Refining Co., Magnolia Petroleum Co., January 24, 1929.

Column 6—Midwest Refining Co., January 25, 1929. All crude over 27 gravity $1.23 per barrel.

Column 7—Humble Oil & Refining Co. and other major buyers January 26 (schedule ends 35 and above), with exception of Magnolia Petroleum Co., which stops at 31 degrees gravity. Sun Pipe Line Co. and The Texas Company posted 2 cents differential for each degree above 35 gravity and $1.37 for 40 gravity and above.

Column 8—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

## CALIFORNIA CRUDE OIL PRICES

Standard Oil Co.-Union Oil Co. (Effective January 18, 1929)

| Gravity— | Salt Lake, Pairgro, Seal Beach, Long Beach, Summerland, Lawndale, Los Angeles, Fullerton, Richfield, Torrance, Olinda-Brea, Alamitos Heights, Signal Hill, Seal Beach, Huntington Beach, Athens, Inglewood, Rosecrans-Dominguez, Watsonville 1 | Whittier, La Habra, Coyote Hills 2 | Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills 3 | Montebello 4 | Santa Fe Springs 5 | Santa Maria, Coalinga 6 | Wheeler Ridge, Fruitvale 7 | Orcutt 8 | Elwood, Ventura, Rincon 9 | Kern River†, Newhall-McKittrick, Mount Poso, Round Mountain 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 to 14.9 | .70 | .70 | .50 | .70 | .... | .50 | .50 | .65 | .70 | .50 |
| 15 to 15.9 | .70 | .70 | .50 | .70 | .... | .50 | .50 | .65 | .70 | .50 |
| 16 to 16.9 | .70 | .70 | .50 | .70 | .... | .50 | .50 | .65 | .70 | .50 |
| 17 to 17.9 | .70 | .70 | .50 | .70 | .... | .50 | .50 | .65 | .70 | .50 |
| 18 to 18.9 | .75 | .75 | .56 | .70 | .... | .56 | .56 | .70 | .75 | .50 |
| 19 to 19.9 | .80 | .80 | .62 | .75 | .... | .62 | .62 | .70 | .80 | .50 |
| 20 to 20.9 | .85 | .84 | .68 | .80 | .... | .68 | .68 | .70 | .85 | .... |
| 21 to 21.9 | .89 | .88 | .74 | .85 | .89 | .74 | .74 | .86 | .86 | .... |
| 22 to 22.9 | .93 | .91 | .80 | .90 | .92 | .80 | .80 | .87 | .87 | .... |
| 23 to 23.9 | .97 | .94 | .85 | .95 | .95 | .85 | .85 | .90 | .90 | .... |
| 24 to 24.9 | 1.01 | .97 | .90 | .98 | .98 | .88 | .88 | .93 | .94 | .... |
| 25 to 25.9 | 1.05 | 1.00 | .95 | 1.01 | 1.01 | .91 | .91 | .95 | .98 | .... |
| 26 to 26.9 | 1.09 | 1.04 | 1.00 | 1.04 | 1.04 | .94 | .94 | .97 | 1.02 | .... |
| 27 to 27.9 | 1.13 | 1.08 | 1.05 | 1.07 | 1.07 | .98 | .97 | .... | 1.06 | .... |
| 28 to 28.9 | 1.17 | 1.12 | 1.10 | 1.10 | 1.10 | 1.02 | .... | .... | 1.10 | .... |
| 29 to 29.9 | 1.21 | 1.16 | 1.16 | 1.13 | 1.15 | 1.06 | .... | .... | 1.14 | .... |
| 30 to 30.9 | 1.25 | 1.20 | 1.22 | 1.16 | 1.20 | 1.10 | .... | .... | 1.18 | .... |
| 31 to 31.9 | 1.30 | .... | 1.28 | .... | 1.25 | 1.14 | .... | .... | 1.23 | .... |
| 32 to 32.9 | 1.35 | .... | 1.34 | .... | 1.30 | 1.18 | .... | .... | 1.28 | .... |
| 33 to 33.9 | 1.41 | .... | 1.40 | .... | 1.35 | 1.22 | .... | .... | .... | .... |
| 34 to 34.9 | 1.47 | .... | 1.46 | .... | 1.40 | 1.26 | .... | .... | .... | .... |
| 35 to 35.9 | 1.53 | .... | .... | .... | 1.45 | 1.30 | .... | .... | .... | .... |
| 36 to 36.9 | 1.59 | .... | .... | .... | 1.50 | .... | .... | .... | .... | .... |
| 37 to 37.9 | 1.65 | .... | .... | .... | 1.55 | .... | .... | .... | .... | .... |
| 38 to 38.9 | 1.71 | .... | .... | .... | 1.60 | .... | .... | .... | .... | .... |
| 39 to 39.9 | 1.77 | .... | .... | .... | 1.65 | .... | .... | .... | .... | .... |
| 40 to 40.9 | 1.83 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 41 to 41.9 | 1.89 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 42 to 42.9 | 1.95 | .... | .... | .... | .... | .... | .... | .... | .... | .... |

*Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity, Dominguez and Athens-Rosecrans, 24 to 42.9 gravity.

Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.

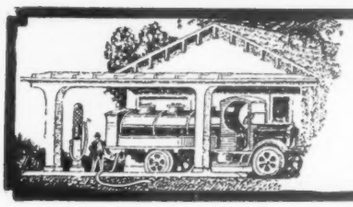
Column 3—Kern River, Newhall and McKittrick, 11 to 19.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; Lost Hills, 11 to 34.9 gravity; oil below 14 gravity posted at 45 cents.

Column 6—Oil below 14 gravity posted at 45 cents.

Columns 8 and 9 posted by Union Oil Co. only.

†On October 2, 1928, Standard Oil Co. of California discontinued contracting for purchase of Kern River crude and on October 20 established following prices on grades below 14 gravity; 11 to 11.9 degrees at 45 cents.

On December 1, 1928, the Union Oil Co. adopted the above schedule of the Standard on Kern River crude and in addition posted Midway-Sunset, Elk Hills, Buena Vista, Lost Hills and Coalinga crude as follows: 11-11.9 gravity, 45 cents; 12 to 12.9 gravity, 55 cents; and 13 to 13.9 gravity at 65 cents. All grades of Elwood crude were cut 7 cents.



# TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Feb. 26.

## ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

### STANDARD OIL CO. (INDIANA)

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax of | Kero. tank wagon |
|---|---|---|---|---|
| †Chicago dist. | 14.0 | 15.0 | ... | 12.0 |
| Decatur, Ill. | 14.2 | 15.2 | ... | 12.1 |
| E. St. Louis | 13.4 | 14.4 | ... | 11.2 |
| Joliet | 14.4 | 15.4 | ... | 12.3 |
| Peoria | 14.2 | 14.0 | ... | 12.1 |
| Quincy | 14.2 | 15.2 | ... | 11.9 |
| Davenport, Ia. | 17.5 | 18.5 | 3.0 | 12.3 |
| Des Moines | 17.5 | 18.5 | 3.0 | 12.3 |
| Keokuk | 17.5 | 18.5 | 3.0 | 12.3 |
| Sioux City | 17.1 | 18.1 | 3.0 | 11.9 |
| Duluth, Minn. | 17.5 | 18.5 | 2.0 | 12.9 |
| Mankato | 17.1 | 18.1 | 2.0 | 12.7 |
| Minneapolis | 17.2 | 18.2 | 2.0 | 12.9 |
| La Crosse, Wis. | 17.2 | 18.2 | 2.0 | 13.0 |
| Milwaukee | 16.1 | 17.1 | 2.0 | 11.9 |
| Madison | 16.3 | 17.3 | 2.0 | 12.1 |
| Detroit, Mich. | 17.8 | 18.8 | 3.0 | 13.7 |
| Grand Rapids | 17.7 | 18.7 | 3.0 | 13.6 |
| Saginaw | 17.9 | 18.9 | 3.0 | 13.8 |
| Evansville, Ind. | 17.0 | 18.0 | 3.0 | 13.0 |
| Fort Wayne | 17.4 | 18.4 | 3.0 | 13.4 |
| Indianapolis | 17.2 | 18.2 | 3.0 | 13.2 |
| South Bend | 17.4 | 18.4 | 3.0 | 13.4 |
| Fargo, N. D. | 18.9 | 19.9 | 2.0 | 14.9 |
| Huron, S. D. | 19.3 | 20.3 | 4.0 | 13.7 |
| Sioux Falls | 18.1 | 19.1 | 4.0 | 13.4 |
| K. C., Mo.* | 16.9 | 17.9 | 3.0 | 10.6 |
| Springfield* | 16.8 | 17.8 | 3.0 | 11.5 |
| St. Louis* | 16.9 | 16.9 | 2.5 | 11.3 |
| St. Joseph | 16.5 | 17.5 | 3.0 | 11.2 |
| Wichita, Kans. | 14.8 | 15.8 | 2.0 | 10.8 |
| Bartlesville, Ok. | 15.5 | 16.5 | 3.0 | 10.5 |

*State tax 2 cents; remainder city tax.
†Effective February 20, discounts on Q.D.A. in Chicago district 2 cents off service station price on purchases of 500 gallons or more per month and 4 cents on purchases of 1,000 gallons or more per month.

### NAPHTHA

| | Tank wagon | Tank car |
|---|---|---|
| Oleum spirits | 14.7 | 11.9 |
| V. M. & P. naphtha | 16.2 | 12.9 |
| Cleaner's naphtha | 18.0 | 13.9 |
| Stanisol | 19.0 | 14.4 |

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting. Effective January 5.

### STANOLIND FURNACE OIL IN CHICAGO

| | |
|---|---|
| Less than 100 gallons | 9.0 |
| 100 to 799 gallons | 8.0 |
| 800 or more gallons | 7.5 |

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

The following quantity discounts from the service station price are allowed on monthly sales of gasoline: 2,000 gallons or less, 2 cents; more than 2,000 and less than 6,000 gallons, 2½ cents; more than 6,000 gallons, 3 cents. Discounts are allowed each month, and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

### PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

**The Atlantic Refining Co.**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax of | Kero. tank wagon |
|---|---|---|---|---|
| Pittsburgh, Pa. | 15.0 | *20.0 | ... | 14.0 |
| Philadelphia | 15.0 | *20.0 | ... | 14.0 |
| Scranton | 15.0 | *20.0 | ... | 14.0 |
| Allentown | 15.0 | *20.0 | ... | 14.0 |
| Altoona | 15.0 | *20.0 | ... | 14.0 |
| Erie | 15.0 | 19.0 | ... | 14.0 |
| Dover, Del. | 18.0 | 20.0 | 3.0 | 14.0 |
| Wilmington | 18.0 | 20.0 | 3.0 | 14.0 |
| Springf'd, Mass. | 18.0 | 20.0 | 3.0 | 15.0 |
| Worcester | 18.0 | 20.0 | 3.0 | 15.0 |
| Boston | 20.0 | 20.0 | 3.0 | 15.0 |
| Providence, R.I. | 18.0 | 20.0 | 3.0 | 15.0 |
| Hartford, Conn. | 18.0 | 20.0 | 3.0 | 14.0 |
| New Haven | 18.0 | 20.0 | 3.0 | 15.0 |

*Includes tax of 3.0 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the state.

### CENTRAL SOUTH DISTRICT

**Standard Oil Co. (Louisiana)**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax of | Kero. tank wagon |
|---|---|---|---|---|
| N. Orleans, La* | 16.5 | 19.5 | 5.0 | 16.0 |
| Baton Rouge | 15.0 | 18.0 | 4.0 | 14.5 |
| Alexandria | 16.0 | 19.0 | 4.0 | 16.0 |
| LaFayette | 16.0 | 19.0 | 4.0 | 14.0 |
| Lake Charles | 16.5 | 19.5 | 4.0 | 16.0 |
| Shreveport | 16.0 | 19.0 | 4.0 | 15.0 |
| Knoxv'le, Tenn. | 20.0 | 24.0 | 5.0 | 16.0 |
| Memphis | 18.0 | 22.0 | 5.0 | 12.5 |
| Chattanooga | 19.5 | 23.5 | 5.0 | 16.0 |
| Nashville | 19.0 | 23.0 | 5.0 | 16.0 |
| Bristol | 20.0 | 24.0 | 5.0 | 14.0 |
| Lit. Rock, Ark. | 18.0 | 21.0 | 5.0 | 13.0 |

*Tax of 5 cents includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax and 1-cent parish tax.

### SOUTHERN DISTRICT

**Standard Oil Co. (Kentucky)**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax of | Kero. tank wagon |
|---|---|---|---|---|
| Atlanta, Ga. | 21.0 | 23.0 | 4.0 | 16.5 |
| Augusta | 21.0 | 23.0 | 4.0 | 15.5 |
| Macon | 21.0 | 22.0 | 4.0 | 16.5 |
| Savannah | 20.0 | 22.0 | 4.0 | 15.5 |
| Birm'ham, Ala. | 18.0 | 20.0 | 4.0 | 13.0 |
| Mobile | 21.0 | 23.0 | 4.0 | 15.0 |
| Montgomery | 22.0 | 24.0 | 4.0 | 16.5 |
| Clarks'le, Miss. | 21.0 | 23.0 | 5.0 | 13.0 |
| Jackson | 20.0 | 22.0 | 5.0 | 13.0 |
| Natchez | 20.5 | 22.5 | 5.0 | 14.0 |
| Gulfport | 22.5 | 24.5 | 5.0 | 14.0 |
| Vicksburg | 20.5 | 22.5 | 5.0 | 14.0 |
| Jack'ville, Fla. | 22.0 | 24.0 | 5.0 | 14.5 |
| Miami | 23.0 | 25.0 | 5.0 | 15.5 |
| Pensacola | 23.0 | 25.0 | 5.0 | 14.5 |
| Tampa | 22.0 | 24.0 | 5.0 | 14.5 |
| Lexington, Ky. | 20.0 | 22.0 | 5.0 | 15.5 |
| Covington | 20.0 | 21.0 | 5.0 | 15.5 |
| Louisville | 20.0 | 22.0 | 5.0 | 15.0 |
| Ashland | 21.0 | 23.0 | 5.0 | 15.5 |
| Catlettsburg | 21.0 | 23.0 | 5.0 | 15.5 |

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. Pensacola and Mobile taxes include 1-cent city levy. Gulf port tax includes privilege tax of 2 cents in addition to state tax.

### PACIFIC COAST TERRITORY

**Standard Oil Co. (California)**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax of | Kero. tank wagon |
|---|---|---|---|---|
| San Francisco | 15.0 | 19.0 | 3.0 | 15.5 |
| Los Angeles | 14.5 | 18.5 | 3.0 | 15.5 |
| Reno, Nev. | 22.0 | 26.0 | 4.0 | 19.0 |
| Portland, Ore. | 15.5 | 19.5 | 3.0 | 16.5 |
| Seattle, Wash. | 14.5 | 18.5 | 2.0 | 16.5 |
| Tacoma | 14.5 | 18.5 | 2.0 | 16.5 |
| Spokane | 18.5 | 22.5 | 2.0 | 20.5 |
| Phoenix, Ariz. | 18.0 | 22.0 | 4.0 | 20.5 |

### NEW YORK AND PART OF NEW ENGLAND DISTRICT

**Standard Oil Co. (New York)**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax of | Kero. tank wagon |
|---|---|---|---|---|
| Albany, N. Y. | 16.0 | 18.0 | ... | 15.0 |
| New York* | 16.0 | 18.0 | ... | 15.0 |
| Buffalo | 16.0 | 18.0 | ... | 14.0 |
| Rochester | 16.0 | 18.0 | ... | 14.0 |
| Syracuse | 16.0 | 18.0 | ... | 15.0 |
| Boston, Mass. | 18.0 | 20.0 | 3.0 | 15.0 |
| Augusta, Me. | 20.0 | 22.0 | 4.0 | 15.0 |
| Manch't'r, N.H. | 20.0 | 22.0 | 4.0 | 15.0 |
| Burlington, Vt. | 19.0 | 20.0 | 4.0 | 15.0 |

*Prices in steel barrels.

### NEBRASKA

**Standard Oil Co. (Nebraska)**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax of | Kero. tank wagon |
|---|---|---|---|---|
| Omaha | 16.25 | 18.25 | 2.0 | 12.25 |
| McCook | 17.75 | 19.75 | 2.0 | 13.75 |
| Norfolk | 16.75 | 18.75 | 2.0 | 12.75 |
| N. Platte | 17.75 | 19.75 | 2.0 | 13.50 |
| Scottsbluff | 17.75 | 19.75 | 2.0 | 13.25 |

### ROCKY MOUNTAIN DISTRICT

**Continental Oil Co.**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax of | Kero. tank wagon |
|---|---|---|---|---|
| Denver, Colo. | 16.0 | 18.0 | 3.0 | 14.5 |
| Pueblo | 17.0 | 20.0 | 3.0 | 14.5 |
| Grand Junction | 21.5 | 24.5 | 3.0 | 18.0 |
| Casper, Wyo. | 18.0 | 21.0 | 3.0 | 13.0 |
| Cheyenne | 19.0 | 22.0 | 3.0 | 14.5 |
| Butte, Mont. | 22.5 | 25.5 | 3.0 | 19.0 |
| Helena | 22.5 | 25.5 | 3.0 | 19.0 |
| Salt Lake, Utah | 21.0 | 24.0 | 3.5 | 17.0 |
| Albu'que, N. M. | 22.0 | 25.0 | 5.0 | 17.0 |
| Boise, Idaho | 23.5 | 26.5 | 4.0 | 19.0 |
| Twin Falls | 23.5 | 26.5 | 4.0 | 19.0 |

### ATLANTIC COAST DISTRICT

**Standard Oil Co. (New Jersey)**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax of | Kero. tank wagon |
|---|---|---|---|---|
| Atlantic City | 16.0 | 20.0 | 2.0 | 13.0 |
| Newark, N. J. | 16.0 | 20.0 | 2.0 | 13.0 |
| Annapolis, Md. | 18.0 | 22.0 | 4.0 | 13.0 |
| Baltimore | 18.0 | 22.0 | 4.0 | 13.0 |
| Cumberland | 18.0 | 22.0 | 4.0 | 13.0 |
| Washington | 16.0 | 20.0 | 3.0 | 13.0 |
| Danville, Va. | 19.0 | 23.0 | 5.0 | 13.0 |
| Norfolk | 19.0 | 23.0 | 5.0 | 13.0 |
| Petersburg | 19.0 | 23.0 | 5.0 | 13.0 |
| Roanoke | 19.0 | 23.0 | 5.0 | 13.0 |
| Richmond | 19.0 | 23.0 | 5.0 | 13.0 |
| Ch'rist'n, W. Va. | 18.0 | 22.0 | 4.0 | 13.0 |
| Keyser | 18.0 | 22.0 | 4.0 | 13.0 |
| Parkersburg | 18.0 | 22.0 | 4.0 | 13.0 |
| Wheeling | 18.0 | 22.0 | 4.0 | 13.0 |
| Charlotte, N. C. | 18.0 | 22.0 | 4.0 | 13.0 |
| Hickory | 18.0 | 22.0 | 4.0 | 13.0 |
| Mt. Airy | 18.0 | 22.0 | 4.0 | 13.0 |
| Salisbury | 18.0 | 22.0 | 4.0 | 13.0 |
| Ch'leston, S. C. | 19.0 | 23.0 | 5.0 | 13.0 |
| Columbia | 19.0 | 23.0 | 5.0 | 13.0 |

### SOUTHWESTERN DISTRICT

**Magnolia Petroleum Co.**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax of | Kero. tank wagon |
|---|---|---|---|---|
| Dallas, Tex. | 13.0 | 16.0 | 2.0 | 12.0 |
| Fort Worth | 13.0 | 16.0 | 2.0 | 12.0 |
| Houston | 16.0 | 20.0 | 2.0 | 13.0 |
| San Antonio | 13.0 | 17.0 | 2.0 | 11.0 |
| El Paso | 17.0 | 20.0 | 2.0 | 16.6 |
| Texarkana | 16.0 | 19.0 | 2.0 | 13.0 |
| Muskogee, Ok.* | 1.40 | 15.0 | 3.0 | 12.0 |
| Okla. City* | 16.0 | 18.0 | 3.0 | 12.0 |
| Tulsa* | 17.0 | 19.0 | 3.0 | 10.0 |
| Ft. Smith, Ark. | 16.0 | 19.0 | 5.0 | 13.0 |
| Little Rock | 18.0 | 21.0 | 5.0 | 13.0 |

*Gasoline tank wagon price to dealers 2 cents under posted tank wagon.

### OHIO

**Standard Oil Co. (Ohio)**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incl'ds tax of | Kero. tank wagon |
|---|---|---|---|---|
| All Ohio points | 17.0 | 18.0 | 3.0 | 12.0 |

## TANK WAGON CHANGES

February 17—Standard Oil Co. of Louisiana advanced gasoline tank wagon and service station price 2 cents in Tennessee.

## GULF COAST MARKET FUEL OILS STRONGER

HOUSTON, Tex., Feb. 26.—A tendency toward strength was indicated in Gulf Coast fuel oils the past week, with a result that generally higher prices were obtainable by sellers Monday and Tuesday, with possibilities of still higher quotations being asked later in the week. Contract making generally is being done from 5 to 15 cents above the spot market. The shift of certain refineries from gas to oil as fuel because of low fuel oil prices in recent months finally has resulted in depleting the available supply of fuels and forced some sellers, formerly with large supplies, into buyers or out of the picture entirely. In addition there has been a tendency among other refiners to cut deeper into their stock for gas oil, which has reduced the production of fuel oil.

The latter trend, however, has the effect of increasing the available supply of gas oils, generally very scarce on the Gulf Coast, with the result that these grades are slightly off in price. Cracked gas oil now is offered as low as 4 cents delivered on the East Coast, which nets back at approximately 3½ cents at Gulf. Cracking stock oil is held firmly at 4 cents Gulf Coast, with few refiners having this grade. Lubricating oils were unchanged the past week with no further price cutting. Indications point to a steadying of these grades temporarily, although there is no important volume of business.

## PLANT OPERATORS MEET IN RANGER DISTRICT

RANGER, Tex., Feb. 26.—More than 100 natural gasoline plant operators were in attendance at the opening of the morning session of plant operators meeting under auspices of the Natural Gasoline Association of America. Dr. E. R. Lederer of Fort Worth, chairman, explained briefly the benefits to be derived from such meeting, and after a welcome address by the mayor of Ranger, the reading and discussion of papers followed.

Particular interest was shown by the operators in the paper delivered by Clifford Clegg on "Operation and Care of Electrical Equipment." Another paper provoking much discussion was on "Absorption Oils," read by I. N. Beall.

The afternoon session was devoted to another series of papers, and the meeting will close tonight with a safety discussion.

### McCULLOCH CO. TO TULSA

The McCulloch Oil Co., of Okmulgee, Okla., will move to Tulsa some time during March. This company which was organized in 1925 by J. W. McCulloch, former vice president and general manager of the Independent Oil & Gas Co., has been located at Okmulgee since that time. The new address of the company will be Philtower Building, Tulsa.

## CRUDE OIL PRICES

(Continued from Page 141)

| | |
|---|---|
| Saratoga, Batson, Daytona, (March 14, 1927)‡ | |
| Markham (March 14)§ | 1.36 |
| High Island (December 14)¶ | 1.36 |

*Humble Oil & Refining Co. and other major buyers. †Gulf Pipe Line Co. ‡Sun Pipe Line Co. §The Texas Company. ¶Posted by Gulf Pipe Line Co.

### ROCKY MOUNTAIN STATES

**Ohio Oil Co.-Midwest Refining Co.**
(Effective January 25, 1929)

| | |
|---|---|
| Rock Creek, Wyo. | $1.11 |
| Salt Creek | See gravity table |
| Big Muddy | 1.35 |
| Grass Creek, heavy (July 27, 1928) | .80 |
| Grass Creek, light | 1.31 |
| Mule Creek (May 1, 1928) | 1.31 |
| Elk Basin | 1.36 |
| Lance Creek | 1.31 |
| Poison Spider (March 14, 1927) | 1.36 |
| Notches (March 14, 1927) | .81 |
| Rex Lake (February 22) | 1.31 |
| Osage | 1.36 |
| Lost Soldier (contract) | 1.06 |
| Hamilton Dome (March 14, 1927) | .86 |
| Greybull | .87 |
| Cat Creek (Montana) (July 27, 1928) | 1.01 |
| Sunburst (Montana) (May 18, 1928) | 1.01 |
| Torchlight | 1.31 |
| Artesia (July 27, 1928) | 1.06 |
| Hogback (New Mexico) (July 27, 1928) | 1.01 |

Note—Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

### SOUTH CENTRAL AND SOUTHWESTERN TEXAS

| | |
|---|---|
| Luling (January 11)* | $1.31 |
| Mirando (January 7)† | .81 |
| Rockdale-Minerva (April 15): | |
| Below 28 gravity | 1.31 |
| 28-38.9 gravity | 1.37 |
| 39-39.9 gravity | 1.39 |
| 40 and above | 1.41 |
| Thrall‡ | |
| Callihan (May 15) | 1.01 |
| Lytton Springs (Lockhart) | See gravity table |
| Somerset | See gravity table |

*Posted by Magnolia Petroleum Co. †Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co. ‡Thrall prices same as North Central Texas less 19½ cents per cwt. freight.

### EASTERN STATES

(Effective January 4, 1929)

| | |
|---|---|
| Penna Grade Oil in New York Transit Lines (New York) | $4.19 |
| Bradford District Oil in National Transit Lines (Pennsylvania) | 4.19 |
| Penna Grade Oil in National Transit Lines (Pennsylvania) | 4.00 |
| Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia) | 4.00 |
| Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania) | 4.04 |
| Penna Grade Oil in Buckeye Pipe Line Lines (Ohio) | 3.85 |
| Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (July 13) | 1.40 |
| Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s Lines (January 25, 1929) | 1.66 |
| Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s Lines (January 25 1929) | 1.71 |
| Somerset Oil in Cumberland Pipe Line Lines (Kentucky) (Feb. 15, 1929) | 1.66 |
| Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (Jan. 29) | .40 |

### MIDDLE WESTERN STATES

**Ohio Oil Co.**
(Effective January 25, 1929)

| | |
|---|---|
| Lima | $1.10 |
| Wooster | 1.63 |
| Illinois | 1.45 |
| Indiana | 1.37 |
| Princeton | 1.41 |
| Plymouth | 1.31 |
| Waterloo (November 17, 1926) | 1.36 |
| Western Kentucky (Sept. 17, 1928) | 1.36 |
| Dundee, Mich. (Feb. 7, 1929)** | .80 |
| Midland, Mich. (January 15, 1929)* | 1.79 |
| Saginaw, Mich., Saginaw Sand (February 10)† | 1.80 |
| Saginaw, Mich., Berea Sand (February 10)† | 1.79 |
| Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky, (March 16)‡ | 1.56 |
| Oil in lines in Stoll Oil Refining Co. in Oil City, Ky. (Feb. 16, 1929)§ | 1.66 |
| Oil Springs (Canada)¶ | 1.57 |
| Petrolia (Canada)¶ | 1.90 |

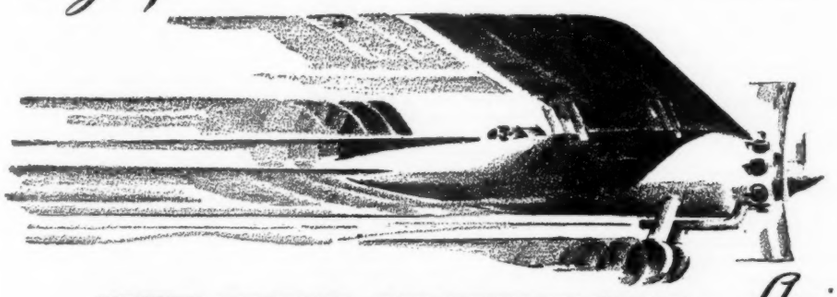
*Posted by Pure Oil Co.
†Posted by Sun Oil Co.
‡Posted by Paragon Development Co.
§Posted by Stoll Oil Refining Co.
¶Posted by Imperial Oil Co., Ltd.

### MEXICAN CRUDE

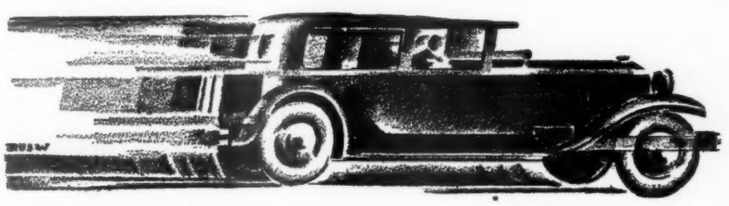
| | |
|---|---|
| Panuco heavy (f.o.b. Mexican ports) | $1.31 |

Note—Due to the fact that the exportation of Tuxpan light crude has become a negligible factor, prices will no longer be published.

*Enjoy* **DRIVING YOUR CAR THIS WINTER**



**.....USE THIS MARVELOUS** *flying fuel..!*



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SINCLAIR REFINING COMPANY, INC., 45 NASSAU STREET, NEW YORK
ATLANTA BOSTON CHICAGO HOUSTON KANSAS CITY

**SINCLAIR AIRCRAFT GASOLINE**

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# Oil Securities Market Was Sluggish

## Sharp Advances in Call Money Affected Key Stocks in General Market. Continental and Prairie Pipe Features

By Special Correspondent

Sharp advances in the call money rate had a tendency to knock down the key stocks in the general industrial list on Monday. Much nervousness was apparent in the market when money advanced from 6½ to 9 per cent within three hours.

In the oils there was a sluggish tone, Continental Oil and Prairie Pipe being the exceptions. Continental Oil touched new high ground when it sold at 35. The reason attributed for this was a showing in a wildcat in California. Prairie Pipe, selling through 60, was another oil in good demand. This figure also makes a new high for the current year and for all past time. On this basis the old stock would sell at 300, a figure which was predicted last year, but which was considered ridiculous by many. Prairie Pipe is believed to have displayed this strength on the continued movement of oil through its lines. These lines have been running at full capacity for over two years.

The remainder of the oils were extremely quiet with no noticeable activity on either the buying or the selling side.

### Prairie Pipe Line

Declaration by the Prairie Pipe Line Co. of a $3 annual basis on the new $25 par stock, of which 4,050,000 shares are outstanding as a result of the recent five-for one splitup, is equivalent to $15 a share on the old $100 par stock, and compares with $14 annual rate previously paid. The extra dividend of 50 cents is equal to $2.50 a share on the old stock.

The income and expense statement for the year ended December 31, 1928, follows:

| | |
|---|---|
| Gross income from operations | $118,209,427.72 |
| Cost of crude and operating and general expense | 90,977,778.74 |
| Net operating income | $27,231,648.98 |
| Other income: | |
| Interest and disc. earnings | $627,791.02 |
| Misc. other income | 725,156.90 |
| Total other income | 1,353,127.92 |
| Gross income | $28,584,776.90 |
| Deductions from income: | |
| Taxes (other than income) | $1,731,654.27 |
| Interest on current dept | 963,907.62 |
| Development (drilling, etc) | 4,469,061.91 |
| Cancelled and surrendered leases | 1,740,737.44 |
| Rentals (unoperated) | 364,322.66 |
| Other deductions | 2,329.63 |
| Total deduct. from inc. | 9,272,013.53 |
| Net earn. before depl., depr. and inc. taxes | $19,312,763.37 |
| Depl. and depr. | $8,075,463.85 |
| Federal income taxes | 699,868.94 |
| Total depl., depr. and inc. taxes | 8,775,332.79 |
| Net earn. after depl., depr. and inc. taxes | $10,537,430.58 |

### Marland Oil

Report of Marland Oil Co. and subsidiaries for year ended December 31, 1928, shows net loss of $4,987,564 after interest, depreciation, depletion, intangible drilling costs, provision for losses of foreign subsidiaries and leases charged off. This compares with net loss of $7,691,076 in 1927 after interest, depreciation, depletion, intangible drilling costs and reduction of crude oil inventories to market value.

Approval of the policy of conservation in production of crude oil is made by D. J. Moran, president, in annual report. Pointing out that the company's production decreased from 41,938 bbls. daily in 1927 to 35,068 bbls. daily last year, largely due to company's participation in conservation programs in various producing districts, he adds: "Continuance of these policies, as they may be lawfully worked out, is deemed to be to the best interests of the company and the oil industry as a whole.

"While the company was able to reduce its operating and administrative expenses substantially in 1928," he says, "both its own gross earnings and its income from its 50 per cent ownership in Comar Oil Co. were substantially reduced by the restrictions imposed by the conservation programs effective during the year. Further economies in operating and administrative expenses are expected during the current year and will contribute substantially to the company's earnings for 1929."

Inventory of crude and refined oils was substantially reduced. Capital investments for additions to properties were $6,513,029 against $17,595,457. Reserves of $17,461,044 compared with $17,499,371; these included substantial amounts against operations of foreign subsidiaries.

### Tidal Osage

Tidal Osage Oil Co., a subsidiary of Tide Water Associated Oil Co., declared a dividend of 50 cents a share on its capital stock payable March 15 to holders of record March 1.

### Buckeye Pipe Line

Report of Buckeye Pipe Line Co. for year ended December 31, 1928, shows net income of $1,207,029, after taxes and charges, equivalent to $6.03 a share (par $50) earned on 200,000 shares of stock. This compares with $981,036, or $4.90 a share, in 1927.

In remarks accompanying the balance sheet, D. S. Bushnell, president of Buckeye Pipe Line Co. stated that trunk line barrelage movement through company lines last year increased approximately 4 per cent over 1927. Runs from wells in the various gathering divisions increased approximately the same amount. Trunk line operations, however, showed a considerable decrease to certain interior points, with a large increase to a number of other interior delivery points. No business was handled for the Atlantic seaboard during 1928.

### Pennsylvania Industries

Stockholders of Oil Well Supply Investment Co. ratified a proposition of directors changing company's name to Pennsylvania Industries, Inc., increasing authorized common to 750,000 from 400,000 shares, retiring oustanding 7 per cent cumulative preferred stock and creating $10,000,000 6 per cent cumulative preferred stock, junior to the 7 per cent preferred until retirement of latter. Stockholders also approved contract with Dillon, Read & Co., providing for the sale to a syndicate of a certain amount of these unit certificates. Present 7 per cent preferred is callable at 110 and the new 6 per cent preferred will be callable at 105. Plans also have been made for underwriting necessary to retire the 7 per cent preferred.

Pennsylvania Industries, Inc., will be headed by J. H. Hillman, Jr., as chairman. The board of directors will include A. H. Beale, president A. M. Byers Co.; F. F. Brooks, president First National Bank at Pittsburgh; E. M. Byers, chairman A. M. Byers Co.; J. H. Hillman, Jr., chairman Peoples Savings & Trust Co. of Pittsburgh; J. Clarke Reed, vice president Oil Well Supply Co.; A. C. Robinson, president Peoples Savings & Trust Co. of Pittsburgh; and A. B. Sheets, vice president Hecla Coal & Coke Co.

### Lion Oil Refining

Lion Oil Refining Co. reports for year ended December 31, 1928, net income of $501,339 after interest, depreciation, depletion and federal taxes, equivalent to $2 a share earned on 250,000 shares of no-par stock outstanding at end of year. This compares with $450,975 or $2.25 a share on 200,000 shares in 1927.

### North Central Texas Oil

North Central Texas Oil Co., Inc., declared the regular quarterly dividend of $1.62½ on the preferred, payable April 1 to stock of record March 11.

### California Petroleum

California Petroleum Corp. has omitted the quarterly dividend due on April 1. Previous payment was 25 cents quarterly. It is understood the dividend was not earned in the last few months, due to the unusually heavy drilling expenses in the deep sands at Santa Fe Springs as well as some unusual writeoffs.

### Italo Petroleum

Italo Petroleum Corp. has notified stockholders that both common and preferred have been changed to no par value from $1 par and that one share of new no par stock will be exchanged for each 10 shares of $1 par stock. New shares will be admitted to trading on Los Angeles Exchange. The company will convert preferred into common in ratio of two preferred shares for each common share up to December 31, 1929.

### Honolulu Consolidated

Honolulu Consolidated Oil Co., for year ended December 31, 1928, reports net profit after depreciation, depletion, federal taxes, etc., of $2,351,348, equal to $2.49 a share on 944,900 shares common, against $3,163,495, or $3.35 a share in 1927. Earned surplus on December 31 was $5,456,051, against $5,959,861 at end of 1927. Honolulu Consolidated Oil declared regular quarterly dividend of 50 cents payable March 15, to stock of rec-

## INDEPENDENT OILS ON THE NEW YORK CURB

**Quotation Compiled by Francis, Bro. & Co., Kennedy Building, Tulsa, Okla.**
**Members New York Curb Market**

| 1926 High | 1926 Low | 1927 High | 1927 Low | 1928 High | 1928 Low | Par Value | Stocks | For week ended February 21: Sales | Open | High | Low | Last | Change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $6.75 | .45 | 2⅞ | .55 | 1½ | .53 | $5 | Amer. Con. Oilfields | 8,200 | 64 | 64 | 60 | 60 | — 1 |
| .. | .. | 7½ | 2¾ | 9½ | 3⅛ | N.P. | Amer. Maracaibo | 7,600 | 6 | 6¼ | 5¾ | 6 | — ⅛ |
| .. | .. | 2¾ | 1 | 4½ | 2¼ | $10 | Argo Oil | 400 | 2¼ | 2¼ | 1⅞ | 2¼ | — ⅛ |
| 85¼ | 60 | 40 | 20½ | 55 | 32¾ | N.P. | British American | No sales. | | | | | |
| 28⅜ | 9¼ | 28¼ | 15½ | 4½ | 3⅞ | 25c | Carib. Syndicate (new) | 3,600 | 3¼ | 3½ | 3 | 3 | — ⅜ |
| .. | .. | 58¾ | 40¼ | 90⅞ | 54 | $20 | Cities Service | 87,100 | 109 | 115 | 105 | 114 | + 5 |
| .. | .. | 95⅜ | 87 | 103½ | 94½ | 100 | Cities Service, pfd. | 1,300 | 96¾ | 96⅞ | 96½ | 96¾ | ..... |
| .. | .. | 8⅞ | 7⅜ | 9⅝ | 8⅞ | 10 | Cities Service, pfd. B | 500 | 9 | 9 | 9 | 9 | ..... |
| 3½ | 1¾ | 3⅞ | 1⅛ | 3¼ | 76 | 1 | Colombia Syndicate | 4,000 | 1¾ | 1⅞ | 1¼ | 1⅜ | + ⅛ |
| .. | .. | 9¾ | 6⅜ | 8⅞ | 6¼ | 10 | Consolidated Royal | 200 | 7⅝ | 7⅝ | 7⅝ | 7⅝ | — 1⅝ |
| 16 | 10 | 14⅞ | 9½ | 17½ | 9½ | N.P. | Creole Syndicate | 18,800 | 9 | 9⅜ | 8¾ | 9⅜ | + ⅛ |
| .. | .. | 3 | .50 | 3¼ | .76 | N.P. | Crown Central | 1,100 | 1⅜ | 1½ | 1¼ | 1½ | + ⅛ |
| 7⅞ | 6¾ | 12 | 4 | 33½ | 3¼ | N.P. | Darby Petroleum | 500 | 20¾ | 21¾ | 20⅜ | 21¼ | ..... |
| .. | .. | 2½ | 74 | 2¼ | 1 | N.P. | Derby Oil & Refining | 700 | 3½ | 3½ | 3¼ | 3¼ | + ⅛ |
| .. | .. | 16¾ | 4 | 21⅛ | 7½ | N.P. | Derby Oil & Refining, pfd. | No sales. | | | | | |
| .. | .. | 2 | .40 | .53 | .15 | N.P. | Gilliland ctfs. | No sales. | | | | | |
| 98 | 92 | 118 | 86¼ | 165 | 101⅛ | $25 | Gulf Oil Corp. | 2,700 | 146 | 148 | 146 | 147¼ | — ¼ |
| $3.00 | .83 | 2½ | .80 | 3⅜ | 1 | 5 | Intercontinental Pet. | 2,500 | 1¾ | 1⅞ | 1¾ | 1¾ | — ⅛ |
| .. | .. | 2¼ | 1⅛ | 3 | 1¼ | N.P. | Kirby Petroleum | 300 | 2 | 2⅛ | 1⅞ | 2¼ | ..... |
| 12¼ | 5¾ | 10⅞ | 5⅛ | 9⅜ | 5⅛ | 25 | Leonard Oil & Dev. | 2,700 | 5⅛ | 5⅛ | 5 | 5 | ..... |
| 27 | 20 | 27½ | 20 | 43⅞ | 20 | N.P. | Lion Oil & Refining | 900 | 27 | 29 | 27 | 29 | ..... |
| 46 | 30 | 59⅜ | 37 | 69⅛ | 48⅛ | $25 | Lone Star Gas | 100 | 70 | 70¾ | 70¾ | 70¾ | — 4 |
| 2⅞ | 1 | 2⅞ | .80 | 1⅞ | .50 | 1 | Magdalena Syndicate | 6,200 | 73 | 80 | 70 | 71 | — 9 |
| 34 | 12½ | 52 | 12 | 48½ | 32 | N.P. | Margay Oil | No sales. | | | | | |
| 8 | 5½ | 12⅛ | 5 | 8 | 2¾ | N.P. | Mexico-Ohio Oil | 3,700 | 5 | 5½ | 5 | 5½ | + ⅛ |
| 1¾ | 1⅛ | 1½ | 1 | 1¾ | .76 | $1 | Mountain & Gulf | 2,200 | 1¼ | 1¼ | 1⅛ | 1¼ | — ⅛ |
| 26 | 23 | 29¼ | 22¾ | 28⅞ | 19½ | 10 | Mountain Producers | 6,000 | 19¾ | 22⅞ | 19½ | 21½ | + 1½ |
| 6⅝ | 5 | 5⅞ | 4⅝ | 5⅝ | 4¼ | 5 | New Bradford | 2,800 | 4½ | 4¾ | 4⅜ | 4⅝ | + ⅛ |
| .. | .. | 16 | 9¼ | 11⅞ | 7⅛ | 1 | New Mex. & Ariz. | 400 | 7¾ | 7¾ | 7⅝ | 7¾ | ..... |
| .. | .. | 12¾ | 9½ | 14¼ | 8½ | N.P. | North Central Texas | 100 | 9⅞ | 9⅞ | 9⅞ | 9⅞ | ..... |
| 10⅛ | 5⅞ | 9⅜ | 3¼ | 6 | 2⅛ | N.P. | Pandem | 2,100 | 2 | 2¼ | 2 | 2 | ..... |
| 12¼ | 11¾ | 12⅛ | 7 | 15⅝ | 8½ | N.P. | Pantepec Oil | 900 | 8¼ | 8⅜ | 8⅛ | 8⅛ | — ⅜ |
| 22¾ | 12 | 13½ | 5⅛ | 7¾ | 4⅞ | N.P. | Pennok Oil | 700 | 4⅞ | 4⅞ | 4⅜ | 4⅜ | + ⅜ |
| 17 | 8½ | 24⅜ | 7 | 18 | 4⅞ | 25 | Red Bank Oil | No sales. | | | | | |
| 30¼ | 12 | 15½ | 3½ | 12⅞ | 4⅛ | N.P. | Reiter-Foster | 4,300 | 5 | 5½ | 5 | 5½ | + ⅜ |
| 7 | 4½ | 7 | 4½ | 12 | 4⅛ | N.P. | Ryan Consolidated | 2,100 | 8 | 8⅝ | 7⅛ | 8⅝ | + ⅝ |
| 10 | 7½ | 8 | 5¼ | 7¼ | 5½ | $10 | Salt Creek Cons. | 1,400 | 5⅜ | 5⅜ | 5⅛ | 5⅛ | — ⅜ |
| 35 | 24½ | 35½ | 27¼ | 35 | 23⅛ | 10 | Salt Creek Prod. | 11,300 | 23⅝ | 25¾ | 23⅛ | 24 | + ⅜ |
| 6⅞ | 1¼ | 7 | 1¼ | 3½ | 1 | 5 | Savoy Oil | No sales. | | | | | |
| 27 | 7⅝ | 26½ | 17 | 22⅞ | 13 | 10 | Tidal Osage | No sales. | | | | | |
| 25¾ | 7⅝ | 23¾ | 15 | 21¼ | 13⅛ | 10 | Tidal Osage, nonvoting | 700 | 11⅛ | 12 | 11⅛ | 11⅝ | + ⅛ |
| 92 | 63½ | 92 | 63½ | 93¾ | 75 | 100 | Transcontinental, pfd. | No sales. | | | | | |
| 8 | 4½ | 7⅜ | 4¼ | 9⅛ | 4¾ | 5 | Venezuelan Petrol | 2,800 | 4⅞ | 5 | 4¾ | 5 | ..... |
| 8⅛ | 5½ | 8 | 4¾ | 8¼ | 4⅞ | $1 | Woodley Petroleum | 400 | 7 | 7½ | 7 | 7½ | + ⅛ |
| 6½ | 6 | 6 | 1¾ | 8⅜ | 2⅛ | 25 | Y Oil & Gas (new) | 500 | 4 | 4¼ | 3¾ | 3¾ | — ⅛ |

# TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

**Quotations Compiled by Francis, Bro. & Co., Members of New York Stock Exchange, Kennedy Building, Tulsa, Okla.**

| 1926 High | 1926 Low | 1927 High | 1927 Low | 1928 High | 1928 Low | Listed capital | Par value | Stocks— | Div. rate | Last paid | For week ended February 21 Sales | Open | High | Low | Last | Change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32⅞ | 24¼ | 37⅝ | 27⅝ | 43⅞ | 27⅛ (sh) | 922,075 | N.P. | Amerada Corp. | 50cQ | Oct. 31, 28 | 13,500 | 30 | 32 | 30 | 31¾ | + ⅛ |
| 74 | 39⅞ | 82½ | 35⅛ | 85 | 51¼ (sh) | 209,180 | N.P. | American Republics Corp. | ..... | ..... | 1,600 | 48 | 48⅛ | 44 | 46 | — 3 |
| 60 | 44¾ | 50¼ | 35 | 53⅜ | 37½ | $57,260,300 | $25 | Associated Oil | 50cQ | Dec. 31, 28 | †11,000 | 43 | 45 | 43 | 45 | — ¼ |
| 128⅜ | 97 | 131⅜ | 104 | 66⅜ | 50 | 50,000,000 | 25 | Atlantic Refining | 25cQ | Dec. 15, 28 | 34,000 | 54¾ | 56⅞ | 54⅜ | 55⅝ | + ¾ |
| 33½ | 23½ | 35½ | 20¾ | 53 | 20 | 35,194,000 | 25 | Barnsdall Corp. | 50cQ | Feb. 5, 29 | 66,000 | 39⅞ | 40 | 38¼ | 39 | — 1 |
| 94¼ | 50 | 96¾ | 65 | 94⅞ | 68 | 20,785,400 | 100 | General Asphalt | ..... | ..... | 3,200 | 6½ | 70¼ | 66⅜ | 70 | + 3½ |
| 72 | 50¼ | 175¾ | 60⅛ | 167 | 79 | 25,000,000 | 100 | Houston Oil | ..... | ..... | 500 | 87 | 87 | 85 | 85 | + 1¾ |
| 34 | 19⅝ | 32¾ | 17⅝ | 38⅜ | 21¾ (sh) | 959,457 | N.P. | Independent Oil & Gas | 50cQ | Jan. 31, 29 | 10,700 | 30½ | 31 | 30⅜ | 30⅝ | + ¼ |
| 12¾ | 7½ | 12⅛ | 7⅝ | 39⅝ | 9 | 8,203,080 | $10 | Indian Refining | ..... | May 31, 24 | 19,300 | 32⅝ | 37¼ | 32½ | 34½ | + 2¼ |
| 25⅞ | 16½ | 37¾ | 20½ | 39⅛ | 27⅜ (sh) | 3,992,122 | N.P. | Lago Oil & Transport | ..... | May 1, 27 | 6,200 | 26½ | 28 | 26¼ | 28 | + ½ |
| 19⅞ | 12 | 18⅛ | 10 | 19¾ | 9⅜ (sh) | 1,237,078 | N.P. | Louisiana Oil Refining | ..... | ..... | 34,900 | 13½ | 16¼ | 13½ | 14½ | + ⅝ |
| 28 | 16½ | 22¾ | 12 | 25½ | 12½ (sh) | 330,000 | N.P. | Maracaibo Oil | ..... | ..... | 1,000 | 12 | 13¼ | 12 | 13¼ | + ⅝ |
| 63⅜ | 49¼ | 58½ | 31 | 49¾ | 33 (sh) | 2,316,692 | N.P. | Marland Oil Co. | ..... | Mar. 31, 27 | 37,800 | 37⅜ | 37⅜ | 36 | 37⅛ | + ½ |
| 13¾ | 6 | 9¼ | 3 | 73 | 4⅝ (sh) | 945,939 | N.P. | Mexican Seaboard | ..... | Dec. 15, 20 | 22,900 | 43⅞ | 45⅞ | 42⅝ | 45½ | + 2⅜ |
| 37 | 20½ | 39⅜ | 25½ | 44½ | 25⅛ (sh) | 1,357,461 | N.P. | Mid-Continent Petroleum | 50cQ | Feb. 15, 29 | 9,400 | 30½ | 31⅞ | 30½ | 31⅛ | + ⅝ |
| 104¼ | 90 | 105 | 97 | 120½ | 103¼ | $6,718,000 | $100 | Mid-Continent Petroleum pfd. | $1.75Q | Sept. 1, 28 | No sales. | | | | | |
| 2½ | ½ | 3¾ | 1⅝ | 7⅜ | 2⅜ | 24,298,850 | 10 | Middle States | ..... | July 1, 23 | 6,900 | 4 | 4 | 3⅞ | 4 | ..... |
| 76½ | 56⅛ | 65⅞ | 40⅛ | 54⅞ | 38¼ | $48,807,400 | $50 | Pan American P. & T. | ..... | Oct. 20, 27 | 1,200 | 40¼ | 41 | 40¼ | 40½ | — ½ |
| 78⅜ | 56⅞ | 66⅜ | 40¼ | 58⅞ | 37¾ | 121,097,900 | 50 | Pan American P. & T. B | ..... | Nov. 15, 24 | 18,900 | 40½ | 41¾ | 40½ | 40⅝ | — ¾ |
| 46 | 30 | 37⅞ | 16¾ | 28⅜ | 15½ (sh) | 400,000 | N.P. | Pan American Western B | ..... | Jan. 30, 27 | 600 | 15½ | 15½ | 14⅝ | 15½ | ..... |
| 32 | 4½ | 18⅞ | 8 | 21¾ | 11½ (sh) | 198,770 | N.P. | Panhandle P. & R. | ..... | ..... | 500 | 9¾ | 9⅞ | 9½ | 9¾ | + ¼ |
| 99⅜ | 51 | 83 | 54 | 108 | 70 | $2,935,200 | $100 | Panhandle P. & R. Pfd. | ..... | July 2, 23 | 500 | 50 | 50 | 50 | 50 | ..... |
| 57⅜ | 40 | 60¼ | 36¼ | 53⅞ | 35¼ (sh) | 2,406,796 | N.P. | Phillips Petroleum | 37½cQ | Jan. 2, 29 | 4,400 | 38 | 38 | 37¼ | 37½ | — ⅜ |
| .... | .... | 1⅛ | ½ | 5¼ | ½ | $29,622,925 | $25 | Pierce Oil Corp. | ..... | ..... | 13,100 | 2½ | 2⅞ | 2⅜ | 2½ | + ⅛ |
| 7 | 2¼ | 5½ | 2½ | 7 | 3½ (sh) | 2,500,000 | N.P. | Pierce Petroleum | ..... | ..... | 15,600 | .. | 5½ | 5 | 5 | — ¼ |
| 60¼ | 48 | 55½ | 45⅝ | 68 | 46 | 60,000,000 | 25 | Prairie Oil & Gas | ..... | Aug. 31, 27 | 13,800 | 56⅛ | 57⅞ | 56⅛ | 57⅞ | + 1⅜ |
| 137½ | 122½ | 190 | 130¾ | 280 | 172 | $101,250,000 | $25 | Prairie Pipe | ..... | ..... | 8,600 | 58½ | 60 | 58⅛ | 59⅛ | + ⅝ |
| 20⅝ | 11 | 33⅞ | 16⅜ | 29⅞ | 16 | $37,450,850 | $50 | Producers & Refiners | ..... | Sept. 15, 23 | 1,800 | 18¼ | 19⅜ | 18¼ | 19⅜ | + 1⅛ |
| 41⅜ | 30¾ | 50 | 36⅞ | 49⅝ | 41 | 2,845,350 | 50 | Producers & Refiners pfd. | ..... | May 1, 25 | †4,000 | 39¾ | 39¾ | 38¼ | 38¼ | — ¾ |
| 81 | 25¼ | 33½ | 25 | 31⅝ | 19 | 75,959,350 | 25 | Pure Oil Co. | 25cQ | Dec. 1, 28 | 8,200 | 23¼ | 24½ | 23¼ | 24½ | + 1¼ |
| 27½ | 22 | 28⅝ | 25⅜ | 56 | 23 | 47,025,000 | $25 | Richfield Oil | ..... | Nov. 15, 28 | 21,100 | 40⅝ | 41½ | 40 | 40⅜ | + ⅝ |
| 57⅜ | 47⅜ | 54½ | 44¼ | 64 | 44⅝ (sh) | 611,303 | 13.40 | Royal Dutch, N. Y. shares | 50cQ | Jan. 10, 29 | 3,400 | 50 | 51 | 49⅞ | 51 | + ⅝ |
| 48⅝ | 40½ | 47⅞ | 41⅜ | 57½ | 40⅝ (sh) | £30,000,000 | £1 | Shell Transport & T. | $1.455 | July 23, 28 | 1,400 | 44⅝ | 44⅝ | 44⅝ | 44⅝ | — ⅜ |
| 51 | 24 | 31¾ | 24⅝ | 39¼ | 23¼ (sh) | 20,000,000 | N.P. | Shell Union Oil | 35cQ | Dec. 31, 28 | 55,000 | 26 | 26½ | 25¾ | 26½ | + ¼ |
| 28⅜ | 15⅛ | 26⅜ | 14¼ | 27¼ | 18⅛ | $8,357,000 | $10 | Simms Petroleum | 10cQ | Dec. 15, 28 | 7,600 | 19⅜ | 20 | 18⅝ | 20 | + ¾ |
| 24⅞ | 16¾ | 22⅜ | 15 | 46¾ | 17⅜ (sh) | 4,501,915 | N.P. | Sinclair Consolidated | ..... | ..... | 96,200 | 39 | 39½ | 38 | 38¼ | — ¾ |
| 99½ | 90 | 104½ | 97 | 110 | 102½ | $16,604,600 | $100 | Sinclair Consolidated pfd. | $2Q | Nov. 15, 28 | 200 | 109¾ | 109¾ | 109¾ | 109¾ | ..... |
| 37⅛ | 26⅝ | 37⅜ | 24⅛ | 42⅝ | 25 | 27,396,590 | 25 | Skelly Oil Co. | 50cQ | Dec. 15, 28 | 5,700 | 33⅜ | 34 | 33 | 34 | + ⅝ |
| 63⅝ | 51½ | 60¾ | 50⅜ | 80 | 53 (sh) | 12,594,098 | N.P. | Standard Oil of California | 65½cQ | Dec. 15, 28 | 22,300 | 64 | 65 | 64 | 64¾ | — 1 |
| 46⅜ | 37½ | 41⅜ | 35½ | 59⅜ | 37¾ | $611,120,700 | $25 | Standard Oil of New Jersey | 25cQ* | Dec. 15, 28 | 38,000 | 48¼ | 49⅝ | 48 | 48¼ | + ¼ |
| 47¼ | 30⅜ | 34⅛ | 29¾ | 44¼ | 28¾ | 427,973,275 | 25 | Standard Oil of New York | 40cQ | Dec. 15, 28 | 37,500 | 39⅛ | 39⅜ | 38⅝ | 38⅞ | — ⅛ |
| 41⅝ | 30⅛ | 34⅞ | 30 | 77 | 31½ (sh) | 1,206,073 | N.P. | Sun Oil | 25cQ | Dec. 15, 28 | 700 | 59 | 59⅞ | 59 | 59½ | — ½ |
| 5¼ | 1 | 6½ | 3⅛ | 14¼ | 2½ (sh) | 1,267,000 | N.P. | Superior Oil Corp. | ..... | Dec. 20, 20 | 18,500 | 7¼ | 8⅜ | 7 | 7⅞ | + ⅝ |
| 58 | 48 | 58 | 45 | 74⅜ | 50 | $211,076,650 | $25 | The Texas Corporation | 75cQ | Jan. 1, 29 | 5,600 | 58⅝ | 56⅜ | 55½ | 55½ | — ½ |
| 19½ | 12 | 18⅞ | 12 | 26⅝ | 12⅛ | 8,380,340 | 10 | Texas Pacific Coal & Oil | ..... | Jan. 3, 28 | 15,400 | 18¼ | 19⅜ | 18¼ | 18½ | + ¼ |
| 39¼ | 27 | 29⅛ | 19 | 41½ | 19⅝ (sh) | 2,168,410 | N.P. | Tide Water Oil Co. | 20cQ | Dec. 15, 28 | 900 | 31½ | 33½ | 31½ | 33½ | + 1½ |
| 103 | 87¼ | 90⅛ | 85 | 100⅛ | 86 | $20,705,200 | $100 | Tide Water Oil Co. 5% pfd. | $1.25Q | Nov. 15, 28 | 300 | .. | 92 | 91⅜ | 91⅜ | — 1 |
| 27 | 20⅞ | 19⅛ | 15⅜ | 25 | 14⅜ (sh) | 4,796,158 | N.P. | Tide Water Associated | ..... | Aug. 1, 27 | 9,400 | 18¼ | 19 | 18⅛ | 18¼ | + ¼ |
| 5½ | 3 | 10⅜ | 3¾ | 14¾ | 7¼ (sh) | 3,742,029 | N.P. | Transcontinental Oil | ..... | ..... | 13,600 | 9⅜ | 9½ | 9⅛ | 9⅜ | ..... |
| 58⅜ | 37¼ | 56½ | 39⅝ | 58 | 42¾ | $94,798,100 | $25 | Union Oil of California | 50cQ | Nov. 10, 28 | 9,200 | 47 | 48¼ | 46 | 47⅜ | — ⅛ |
| 120⅜ | 84¼ | 127½ | 94 | 128⅛ | 110 | 31,061,200 | 100 | Union Tank Car Co. | $1.25Q | Dec. 1, 28 | 3,300 | 137¾ | 150¼ | 137¾ | 147 | + 7 |
| 30⅛ | 23½ | 34½ | 24½ | 44⅞ | 26 (sh) | 356,000 | N.P. | Warner Quinlan | 50cQ | Jan. 2, 29 | 4,400 | 34 | 35 | 33⅞ | 34⅞ | + ⅞ |
| 29¼ | 25⅛ | 27½ | 20 | 38 | 26⅛ (sh) | 490,000 | N.P. | White Eagle Oil & Refining | 50cQ | Jan. 20, 29 | 27,600 | 31½ | 37⅜ | 31½ | 37 | + 5 |
| | | | | | | | | Wilcox Oil & Gas | ..... | ..... | 3,600 | 24¼ | 25½ | 22¾ | 25 | + ⅜ |

*Also extras. †Ex-dividend.

# STANDARD OIL STOCKS ON NEW YORK CURB

| 21 | 16 | 21⅝ | 17⅞ | 22⅜ | 14⅞ | £4,126,460 | £1 | Anglo-American Oil | ..... | June 6, 28 | 2,700 | 16¾ | 16¾ | 16⅛ | 16½ | — ½ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .... | .... | 3¾ | ¾ | 5 | 1¼ (sh) | 500,000 | N.P. | Atlantic Lobos | ..... | ..... | 300 | 2⅛ | 2⅛ | 2 | 2 | ..... |
| 76 | 65 | 69 | 50 | 56½ | 44½ | 1,000,000 | 25 | Borne Scrymser | $18.A. | Oct. 15, 28 | No sales. | | | | | |
| 59½ | 42 | 60 | 45 | 76 | 53 | 10,000,000 | 50 | Buckeye Pipe Line | $1Q | Dec. 15, 28 | 200 | 69 | 69¾ | 69 | 69¾ | + ⅛ |
| 82½ | 65 | 126 | 76½ | 161 | 117½ | 3,000,000 | 25 | Chesebrough Mfg. | $1Q | Dec. 28, 28 | 700 | 145 | 145 | 141½ | 144 | + 3½ |
| 25⅞ | 17½ | 22⅝ | 16¼ | 23 | 16 | 36,057,840 | 10 | Continental Oil | ..... | Dec. 15, 27 | 81,800 | 22¾ | 23⅝ | 21⅞ | 23⅝ | + ⅜ |
| 137 | 102 | 137 | 89 | 114 | 67 | 1,500,000 | 50 | Cumberland Pipe Line | $1A | Dec. 15, 28 | 65,900 | 72 | 90½ | 70 | 75 | ..... |
| 63¾ | 43 | 68½ | 47 | 88 | 64⅛ | 5,000,000 | 100 | Eureka Pipe Line | $1Q | Nov. 1, 28 | No sales. | | | | | |
| 32½ | 9⅞ | 13½ | 3½ | 13 | 4¼ | 16,000,000 | 100 | Galena Signal Oil | ..... | June 30, 25 | No sales. | | | | | |
| 68½ | 52 | 68½ | 54 | 114⅜ | 59¼ | 73,117,577 | 25 | Humble Oil & Refining | 30cQ* | Jan. 1, 29 | 2,400 | 90¼ | 90¼ | 89⅝ | 89⅝ | — ⅜ |
| 144½ | 125½ | 182 | 123¾ | 290½ | 176½ | 20,000,000 | 100 | Illinois Pipe Line | 10%S.A. | Dec. 15, 28 | 400 | 300 | 300½ | 299 | 300½ | + ½ |
| .... | .... | 64¾ | 37¾ | 104 | 56¾ (sh) | 6,458,267 | N.P. | Imperial of Canada | 25cQ | Dec. 1, 28 | 5,100 | 90 | 93 | 90 | 93 | + 4 |
| 72½ | 58 | 94½ | 61 | 91⅞ | 74⅜ | $5,000,000 | $50 | Indiana Pipe Line | $1Q | Feb. 15, 29 | 300 | 82 | 82 | 81¼ | 81¼ | ..... |
| 35½ | 28¾ | 39 | 28¼ | 55 | 35 (sh) | 7,123,444 | N.P. | International Petroleum | 25c | Nov. 30, 28 | 3,400 | 53⅛ | 55 | 52¾ | 54⅛ | + ⅛ |
| 20¾ | 12½ | 24 | 13½ | 32⅜ | 19⅜ | $6,363,350 | 12.50 | National Transit Co. | 25c | Dec. 15, 28 | 5,400 | 23⅞ | 25¼ | 23 | 25¼ | + 2¼ |
| 51½ | 27¼ | 44½ | 31¼ | 75 | 38½ | 5,000,000 | 100 | New York Transit | ..... | July 15, 26 | 100 | 25 | 25 | 25 | 25 | ..... |
| 80½ | 64 | 100 | 70 | 69 | 56½ | 2,000,000 | 50 | Northern Pipe Line | $38.A. | Jan. 2, 29 | 100 | 59 | 60¾ | 59 | 60¾ | ..... |
| 67¾ | 55¾ | 67⅞ | 52 | 84 | 58½ | 60,000,000 | 25 | Ohio Oil Co. | 50cQ* | Dec. 15, 28 | 600 | 64⅝ | 65¾ | 64⅝ | 64⅞ | — ½ |
| 24⅜ | 15 | 39 | 12 | 84 | 28 | 10,000,000 | 25 | Penn Mex. Fuel | $1.25 | Dec. 15, 28 | 1,700 | 35 | 35 | 32¼ | 34⅞ | — 2⅛ |
| 220 | 84½ | 201½ | 175½ | 220 | 167 | 4,000,000 | 100 | Solar Refining | $5S.A. | Dec. 20, 28 | No sales. | | | | | |
| 74½ | 61½ | 27¼ | 15½ | 19 | 15 | 1,000,000 | 10 | Southern Pipe Line | $2 | Dec. 1, 27 | No sales. | | | | | |
| 50 | 34½ | 41½ | 35 | 71⅞ | 36¾ | 2,000,000 | 25 | South Penn Oil | 50cQ | Dec. 31, 28 | 2,200 | 63¾ | 63¾ | 62⅛ | 62⅜ | — 1⅝ |
| 56 | 47½ | 83 | 55½ | 102 | 70 | 3,500,000 | 100 | Southwest Pa. Pipe Lines | $1Q | Oct. 1, 28 | 150 | 70 | 70 | 69¾ | 69¾ | — ¼ |
| 70½ | 60½ | 81½ | 64⅝ | 95⅞ | 70⅞ | 228,415,463 | 25 | Standard Oil of Indiana | 62½cQ | Dec. 15, 28 | 19,400 | 88 | 88⅛ | 86⅝ | 87¼ | — 1¾ |
| 36½ | 16½ | 20⅞ | 14⅝ | 27¾ | 15 | 8,000,000 | 25 | Standard Oil of Kansas | ..... | June 16, 24 | 300 | 19½ | 19¾ | 19½ | 19½ | — ¼ |
| 134⅜ | 108 | 130 | 111½ | 179¾ | 122¼ | 17,012,559 | 10 | Standard Oil of Kentucky | $1Q | Dec. 31, 28 | 7,100 | 40 | 40⅜ | 39⅛ | 39⅞ | — ⅞ |
| 51⅜ | 42 | 49½ | 40 | 54⅞ | 39⅞ | 4,559,850 | 25 | Standard Oil of Nebraska | 63cQ | Dec. 20, 28 | 400 | 47 | 47 | 46⅝ | 47 | — 1 |
| 372 | 288 | 87½ | 72 | 134 | 71 | 14,000,000 | 25 | Standard Oil of Ohio | 62½cQ | Jan. 2, 29 | 250 | 115 | 115 | 110¼ | 110¼ | — 4¾ |
| 21 | 15 | 21 | 14½ | 23½ | 16 | 861,000 | 25 | Swan Finch Co. | ..... | Nov. 1, 19 | No sales. | | | | | |
| 106⅜ | 90¼ | .... | .... | 111 | 72 | 125,619,000 | 25 | Vacuum Oil | 75cQ | Dec. 20, 28 | 4,100 | 115⅝ | 119¾ | 113¾ | 119¾ | + 3¼ |

*Also extras.

ed March 5. A. C. Matti has been elected executive vice president.

### Cities Service

Cities Service Co. declared regular monthly dividends of 10 cents in cash and one-half of 1 per cent in common stock on common stock, 50 cents each on preferred and preference "BB," and 5 cents on preference "B," all payable April 1 to stock of record March 15.

Directors discussed question of splitting up the common stock at their meeting Wednesday and called a special meeting for March 12 to consider recommendations to be made to stockholders at annual meeting in April.

### Northern Pipe Line

Report of Northern Pipe Line Co. for year ended December 31, 1928, shows net income of $399,632 after depreciation and taxes, equivalent to $9.99 a share (par $50) earned on 40,000 shares of stock. This compares with $339,140 or $8.47 a share (par $100) on 40,000 shares of stock in 1927.

### Indian Refining

Indian Refining Co. declared regular quarterly dividends of $1.75 on preferred and refunding preferred stocks, payable April 1 to stock of record March 2. Regarding the 275,000 shares additional stock of Indian Refining Co. to be authorized by shareholders, of which about 250,000 shares will be offered to common stockholders at $21 a share, in ratio of one additional for each four held, company states common holders of record March 15 will have the right to subscribe on or before April 5. Holders of preferred must convert into common before that date to have subscription privilege. The company will use new money to call its remaining $1,200,000 first mortgage

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## HALF CENT BREAK IN EASTERN TANK CAR

(Continued from Page 136)

maintained. Stocks are moving into export channels in good volume against contracts previously entered, and foreign buyers are expected back into the market shortly.

Gas oil sales in foreign channels were again rather quiet with the market showing a fairly steady tone, however, due to continued activity in domestic markets.

### Petroleum Exports

The following table shows principal exports of petroleum and refined petroleum products from New York during the past three weeks (all figures in gallons unless otherwise noted):

| | Week ended | | |
|---|---|---|---|
| | Feb. 16 | Feb. 9 | Feb. 2 |
| Gasoline ..... | 608,000 | 1,150,000 | 706,000 |
| Naphtha ..... | 1,498,800 | 630,000 | 2,071,000 |
| Kerosene .... | 266,500 | 509,000 | 158,000 |
| Fuel oil .... | 2,000 | 13,500 | 23,000 |
| Lubricating oil | 1,096,700 | 1,788,700 | 4,155,000 |
| Petroleum, ref. | 1,950,000 | 1,635,000 | 3,460,000 |
| | Pounds | | |
| Petrolatum .. ..... | | 23,000 | 91,000 |
| Paraffin wax. | 633,700 | 389,000 | 1,847,000 |
| Refined .... | 4,700 | ..... | 40,000 |
| Scale ..... | 356,000 | ..... | 497,000 |
| Lub. grease ... | 1,283,900 | 1,275,000 | 1,648,000 |

### Imports

Imports of crude and refined oils at the principal United States ports for the week ended February 16 totaled 1,426,000 bbls., a daily average of 203,714 bbls., compared with 2,257,000 bbls. a daily average of 322,428 bbls. for the week ended February 9 and a daily average of 268,357 bbls. for the four weeks ended February 16. Details follow:

| | Bbls of 42 Gals. |
|---|---|
| At Atlantic Coast Ports— | |
| Baltimore ..... | 65,000 |
| Boston ..... | 143,000 |
| New York ..... | 850,000 |
| Philadelphia ..... | 243,000 |
| Others ..... | 125,000 |
| Total ..... | 1,426,000 |
| Daily average ..... | 203,714 |
| Daily average four weeks..... | 268,357 |

### California Oil Receipts

Receipts of California crude and refined oils at Atlantic and Gulf Ports for the week ended February 16 totaled 617,000 bbls., a daily average of 88,143 bbls., against 731,000 bbls., a daily average of 104,429 bbls. for the week ended February 9, and a daily average of 78,750 bbls. for the four weeks ended February 16. Details follow:

| | Bbls. of 42 Gals. |
|---|---|
| At Atlantic Coast Ports— | |
| Baltimore ..... | 95,000 |
| New York ..... | 410,000 |
| Philadelphia ..... | 36,000 |
| Others ..... | 76,000 |
| Total ..... | 617,000 |
| Daily average ..... | 88,143 |
| Daily average four weeks ..... | 78,750 |

Distribution of total California oil receipts is as follows:

| | |
|---|---|
| Gasoline ..... | 445,000 |
| Gas oil ..... | 172,000 |
| Total ..... | 617,000 |

## APPARATUS IN NATURAL GASOLINE MANUFACTURE

(Continued from Page 132)

along various lines for quite some time by some of our most eminent men. The results have been gratifying and the data available at the present time make it possible to design with definite results as an ultimate goal.

An idea of how crude the measure of efficiency must have been can be had when we look back and remember the day we hoped to be able to obtain 100 per cent of tests that are now being exceeded by over 100 per cent in some cases.

Our present analytical methods are not entirely what is desired, but an accurate idea may be had of what constituents and their respective proportions can be economically extracted in order to get maximum yield of desirable quality gasoline. Naturally when extracting all pentanes and heavier and any definite amount of butane from the gas, certain quantities of propane and lighter will also be extracted. These ratios are governed to some extent in the absorber, by the quality of oil, the temperature, pressure, design of the absorber, etc.

The composite product is then rectified and the undesirable constituents are rejected. This work is accomplished with a rectifying column.

The function of the still is to separate the gasoline fractions from the oil, determine the final boiling point of the gasoline and regulate the initial boiling point of the lean or stripped absorption oil.

The idea at first seemed to be that to extract gasoline from gas was to contact gas and oil in an absorber, boil the oil in any kind of vessel, condense the offcoming vapors, cool the oil and repeat the cycle. Simple enough if the separation of dissolved light hydrocarbon constituents in heavier hydrocarbon constituents acted in such simple manner and separated from the liquid to vapor state and vice versa.

### Absorption Oil

An important condition in the distillation process is to effect a complete separation of oil and gasoline fractions without permitting any oil to pass over into the gasoline production and to permit no gasoline to remain in the oil. Should we use an extremely heavy oil, one that has a sufficiently high initial boiling point and endpoint, the problem is relatively simple as far as keeping the oil from passing over into gasoline production is concerned. Laboratory tests and also plant practice have definitely proven that lighter oils which do not actually contain the same constituents as the gas are better absorption mediums than the heavy oils commonly used.

Such oils might be defined in the following manner:

A.P.I. gravity—45 degrees.
Specific gravity, at 60 degrees Fahrenheit—.8017.
Specific heat, at 80 degrees Fahrenheit—.54.
Molecular weight—160 to 180.
Specific density—6.675 lbs./gals.
Initial boiling point—350 degrees Fahrenheit.
Final boiling point—425 degrees Fahrenheit.

The general benefits of such oil aside from its absorption qualities are lower pressure drops through the heat exchangers, cooling coils and piping. Better heat exchange is also obtained, and lower oil circulation for the same purpose is required. The vapor pressure of any hydrocarbon mixture is a total of the partial pressures of the various constituents.

The vapor pressure of the oil and gas approach equilibrium conditions of a relatively close degree in the modern absorber and it is of prime importance that the oil leaving the still should have a very low vapor pressure at absorber temperature. The absorption and distillation processes are vapor pressure phenomena, and the limit of stripping of any constituent from the gas in an absorber is when the partial pressure of the constituent in the gas phase equals its vapor pressure in solution in the oil.

Returning to the vapor pressure of the lean oil, it is interesting to note that heavier constituents of gasoline can be present in the lean oil without affecting the vapor pressure of the oil to any appreciable extent, while a small percentage of lighter constituents may show a high vapor pressure lean oil. This might be a very interesting subject for a future paper.

### Still Design

The vertical steam still is best suited for economical construction and operation. Having gone through an evolution based upon operating experience, the average still now in use is a material improvement upon the originals.

It has been in the last year, however, that the problem has been approached from the scientific angle by equipment manufacturers. Without going into a mathematical analysis of the subject, let us consider the basic principles and fundamentals for which a still should be designed.

To strip the fat oil of its gasoline fractions.

To fractionate the vapors so that only gasoline fractions are passed over into the final gasoline condensers.

In a well designed column both phases may be accomplished, although the work of each phase is distinctly different. A column capable of stripping the oil and also separating the heavier constituents from the vapors and permitting endpoint control of the finished product would consist of a stripper section and fractionating section. The feed to the stripper is preheated so that most of the lighter fractions spontaneously vaporize in the compartment where the feed is introduced, and the heavier constituents of the gasoline remaining are differentially stripped out in the stripper.

### Differential Stripping

Now let us see why and how differential stripping can and is being done. A definite relation of vapor pressure exists between fractions in the liquid phase and fractions in the vapor phase.

When the partial pressure of any fraction in the vapor phase is greater than its vapor pressure in the liquid phase and the vapor is intimately contacted with, but not in equilibrium with the liquid, absorption will take place or the transfer is from vapor to liquid.

When the reverse conditions exist, that is if the vapor pressure of the fraction in the liquid exceeds the partial pressure of the fraction in the vapor phase, distillation results, or the transfer is from liquid to vapor. In the case of the problem under consideration stripping of the oil results.

Just to make the term "vapor pressure" more easily understood, we will define "the vapor pressure of any fraction" as "a measure of its tendency to escape from the liquid into the vapor phase." Steam introduced into hydrocarbon vapors reduces the partial pressure of the vapors.

When distillation takes place the fractions vaporized cause a temperature drop equal to the latent heat of absorbing specific heat of vaporization of the constituents vaporized. In the complete stripping of oil this heat loss must be supplied with additional heat to cause vaporization of the fractions which did not flash off in the spontaneous vaporization when the feed entered the column.

The most economical means to supply this heat is by the use of a steam heating element or coil in the lower part of the stripper. While the ideal condition might be a heater coil upon each stripper tray, or a heater element near the top of the stripper and one at or near the bottom, yet when a sufficient amount of heat can be supplied at the bottom a temperature gradient is established throughout the stripper by the hot fractions rising from below. Free or agitation steam is admitted aiding the increasing temperature in stripping the oil.

In the bottom of the stripper the partial pressure of the gasoline fractions in the oil is very low; due to the small amount of solution in the oil. The steam at this point is also in practically an unsaturated condition and reduces the partial pressure to a minimum. This condition permits fractions with low vapor pressure to migrate from the liquid to the vapor phase.

As the steam rises and becomes more saturated with hydrocarbon vapors the partial pressure of the gasoline fractions in the liquid also increases and the migration from liquid to vapor continues throughout the stripper. The upper section of the column consists of a number of plates. In this upper the gasoline vapors are stripped of absorption oil.

Fractions in the liquid phase act as a solvent and fractions in the vapor phase may act as a solute. Gasoline fractions in the liquid phase in the fractionating section absorb or saturate themselves with heavy constituents in the top of the column.

There is a temperature gradient through the fractionating section, being cooler at the top than at the bottom. As the reflux or backwash gasoline which is introduced as an absorption medium at the top, nears the bottom the temperature and partial pressure is such that gasoline cannot exist in the liquid phase and is revaporized, leaving the oil behind, or in other words, the vaporization of light fractions absorbs the heat from the liquid which in turn assists in condensing heavier constituents. The heavier fractions then pass to the stripper.

The intimacy with which the vapors and liquid are contacted have a considerable bearing upon the efficiency of a column provided that all other conditions are met. Regarding the number of plates necessary, since the partially hydrocarbon saturated steam in a superheated condition enters the bottom of the fractionating section, plates for the thorough denuding of the descending reflux should be provided for. The superheated vapors effect distillation with a small amount of condensate at this point. This will permit an almost gasoline free reflux to enter the stripper section.

The rest of the fractionating section must effect a complete washing of vapors so that only the desired gasoline fractions pass overhead. The temperature in the upper part of the fractionating section under normal conditions is such that part of the steam is condensed. In a well designed column, the water is immediately withdrawn as water can not act as a proper vapor wash and should water flow downward with the reflux into the stripper section where the heat would cause it to vaporize, the result would be that the column would puke.

The size of a column, that is the stripper and fractionating section, must be designed for an adequate liquid capacity and vapor capacity. The steam introduced for partial pressure is a considerable volume of the total vapors to be handled and it of necessity follows that for any given diameter column, the column requiring the least amount of steam will handle a correspondingly larger amount of gasoline vapors. This will reduce the size, cost and operating expense of a column for a given amount of overhead to be handled and will further reflect in a reduction of surface required for cooling and condensing.

In conclusion, the still is a more vital part of an absorption plant than the absorber as it is the unit which determines the quality of the oil which is permissible for use in an absorber. Upon it also depends the maintenance of the oil in its original condition.

## SEMINOLE SHUT-DOWNS SUNDAY LOWER OUTPUT

(Continued from Page 132)

into a normal routine of operations when started up again.

### Shutdown Costly

From an operating standpoint, the Sunday shutdown plan for gasoline plants is very costly, but like many other shutdown movements it could be worked out so that the plants may continue at a minimum rate, possibly supplied by only one or two key wells. This would remove a large share of the objections being raised at present from an operating standpoint, but would bring about practically the same results as a complete shutdown. This would necessitate a closer working agreement between the producers and the gasoline manufacturers, but such a plan is viewed as entirely practicable.

Another objection raised to the plan of completely shutting down one day a week is that many operators will have to purchase gas to resume operations where recycling is practiced. Some companies say they will have to purchase gas from one to three days a week, which in itself renders the plan very unfavorable to some. Still another objection is the fact that if the plant is allowed to operate on a very limited amount of gas, the oil content of the gas will be built up to the point where it might become dangerous.

## PROPOSE TO REGULATE LUBRICATING OILS

(Continued from Page 137)

perature of 130 degrees Fahrenheit to flow through such outlet tube, is from 185 to 255 seconds, the number 30 shall be plainly labeled thereon.

e. If the time required for 60 cubic centimeters of oil, when heated to a temperature of 130 degrees Fahrenheit to flow through such outlet tube, is more than 255 seconds and the time required for the same oil when heated to a temperature of 210 degrees Fahrenheit to flow through such outlet tube, is from 68 to 75 seconds, the number 40 shall be plainly labeled thereon.

f. If the time required for 60 cubic centimeters of the oil when heated to a temperature of 210 degrees Fahrenheit

to flow through such outlet tube, is from 75 to 105 seconds, the number 50 shall be plainly labeled thereon.

g. If the time required for 60 cubic centimeters of the oil, when heated to a temperature of 210 degrees Fahrenheit to flow through such outlet tube, is from 105 to 120 seconds, the number 60 shall be plainly labeled thereon.

h. If the time required for 60 cubic centimeters of the oil, when heated to a temperature of 210 degrees Fahrenheit to flow through such outlet tube, is more than 120 seconds, the number 70 shall be plainly labeled thereon.

Section 3. There shall be marked on the container of such oils or on a tag affixed thereto, a true statement of the resistance to emulsification of such oils, using the equipment and methods adopted as standard by the American Society for Testing Materials.

Section 4. There shall be marked on the container of such oils or on a tag affixed thereto, a true statement of the flash point and fire point of such oil as determined by use of the Cleveland open tester and the methods adopted as standard by the American Society for Testing Materials.

Section 5. There shall be marked on the container of such oils, or on a tag affixed thereto, a true statement of the gravity of such oil at 60 degrees Fahrenheit expressed in degrees Baume.

Section 6. There shall be marked on the container of such oils or on a tag affixed thereto, a true statement of the pour test of such oil, as determined by use of the equipment and methods adopted as standard for such test by the American Society for Testing Materials.

Section 7. There shall be marked on the container of such oils or on a tag affixed thereto, a true statement of the carbon residue of such oil as determined by use of the Conradson carbon residue apparatus and the methods adopted as standard by the American Society for Testing Materials.

Section 8. There shall be marked on the container of such oils or on a tag affixed thereto, a true statement in percentages by volume of ingredients not derived from petroleum, contained in such oil.

Section 9. Any person, firm or corporation who sells or offers for sale automotive lubricating oil in violation of the provisions of this act, shall be guilty of a misdemeanor and upon conviction shall be adjudged to pay a fine in an amount not less than $25 nor more than $100.

Section 10. The term "automotive lubricating oil" as used in this act shall include all oils sold or offered for sale for crankcase lubrication of automobiles, trucks or tractors.

Section 11. It shall be the duty of the state oil inspector and the inspectors appointed under him to take samples of automotive lubricating oils sold or offered for sale in this state, and have a test made of such samples from time to time, at the discretion of such state oil inspector.

Section 12. This act shall take effect and be in force from and after its publication in the official state paper.

## CRUDE HIGH IN LUBRICATING YIELD

(Continued from Page 137)

cylinder stock yield and from 1.5 to 2.0 per cent if the crude is run to a heavy residuum.

### Yields

The yields as they may be expected from a plant operation when running to cylinder stock and lubricating oils are given below:

| Per cent yield per bbl. of crude | Product |
|---|---|
| 28.0 to 29.0 | Gasoline 437 endpoint |
| 9.0 to 10.0 | Kerosene 550 endpoint |
| 33.0 to 35.0 | Gas oil for cracking |
| 5.0 to 6.0 | Viscous 210 viscosity |
| 16.0 to 18.0 | Steam refined stock |
| .8 to 1.2 | Wax 122-124 A.M.P. |
| 2.5 to 3.0 | Loss |

For comparison, a yield of from 18 to 20 per cent 100 viscosity lubricating oil could be made. No unusual factors have come up in the operation which would make this crude undesirable from a refining standpoint.

At present there is a production of about 5,000 bbls. daily and this is all coming from one well, that of the Indian Territory Illuminating Oil Co., but other production is likely to come in soon, as 12 wells are being drilled, one having passed the sand from which the production is coming in the old well, in order to test the lower sands.

## LITTLE BUFFALO BASIN EXPECTS TO GET PLAY

(Continued from Page 41)

greenish gray shale interbedded with sandstone.

**Jurassic**

Sundance, 250-530 feet. Greenish gray sandstone and shale with a little interbedded limestone.

**Triassic**

Chugwater, 700-1,100 feet. "Red beds;" red sandstone and shale with a thick bed of gypsum near the top.

**Carboniferous**

Embar, 250-480 feet. Gray limestone, with gray and red sandy shale and gypsum interbedded.

Tensleep, 30-230 feet. Massive gray sandstone.

Amsden, 150-200 feet. Red sandy shale and sandstone.

Madison, 600-1,000 feet. Gray massive limestone.

Note—The formations having source material and reservoir rocks for oil and gas, and which are productive elsewhere in Wyoming, either of oil or gas, or both, but have not yet been reached by the drill in a location where these substances might reasonably be expected to accumulate, are those named in the foregoing table beginning with the Cloverly (Dakota.)

The Little Buffalo Basin structures as described by Doctor Hintze, consist of two domes possessing a very large combined closure, and separate closures of several hundred feet. They are nearly equal in size and trend slightly west of north, arranged enechelon. The usual practice is to call them the East and West Domes though this is not a correct definition of their relative position. The East Dome has its highest portion surrounding the north quarter corner of Section 12-47-100, occupying parts of Sections 1 and 12. The structure is defined on the accompanying map by contour lines on top of the Frontier formation, calculated to a sea level datum, and having an interval of 100 feet. There are six separate closed contours in the East Dome, giving it an independent closure of a little over 600 feet.

The West Dome culminates in Sections 3 and 34. It has less independent closure as shown on the map, but no well has been drilled on its highest portion, and the last two contours on the top are, therefore, estimated. As shown, it has a little over 400 feet of closure.

**Gas Well Between Domes**

The syncline, or saddle, between the two domes rises above the 4,400-foot contour in the central part of Section 2. A gas well has been drilled in the middle of the saddle which indicates that both domes are filled with gas to some depth below that level, and as the total closure of the two structures is more than 2,500 feet, this saddle is seen to be in reality a minor feature.

The state lands of the Grebo Royalties, Inc., lie partly on each of the domes. The highest point structurally on this land is found near the middle of the east line of the SE of Section 2-47-100, which reaches the 4,700-foot line, or approximately 300 feet below the apex of the East Dome, and 100 feet below the top of the West Dome. The Grebo's No. 1 State, SE NW SE Section 2-47-100, commenced spudding on September 30, 1928. The 15½-inch was set at 77 feet and the 12½-inch at 827 feet. The first Wall Creek in the Frontier was topped at 1,491 feet and was dry. The second Wall Creek was topped at 1,685 feet and had a slight show of green oil in the top of the sand. Gas commenced showing at 1,682 feet and increased to 1,699 feet when drilling was suspended to cement the 10-inch at 1,688 feet in a hard shell on top of the sand. The well then was shut down until spring.

The Midwest Refining Co.'s No. 1, NW SW NE, Section 12-47-100, found the top of the Frontier at 880 feet, which is the shallowest of all the wells drilled. It had 90,000,000 feet of gas at 1,177 feet. These sands were shut off and at 1,330 feet it had 30,000,000 feet. Total depth was 2,000 feet. The Texas Company's No. 3 Tannerg, NE SE SE Section 7-47-99, found the Frontier at 1,920 feet, which is the deepest it has been encountered. The average is around 1,400 feet. This well, which was 1,200 feet down structure and out on the southeastern flank, was drilled to 3,475 feet and abandoned. It topped the Dakota at 3,398 feet where it had a small show of light oil.

The United States Geological Survey designated all the land within the 4,350-foot contour as a proven oil and gas structure under the provisions of the general leasing act, embracing 4,805 acres. There is considerable government land within the closure, and outside of the designated structure, but this is not open to filing and can be obtained only at public auction should the government offer same for leasing. Altogether, the government has 2,440 acres unleased. The Midwest Refining Co. has 3,160 acres under lease, the Ohio Oil Co. 1,120 acres, and Grebo Royalties, Inc., 240 acres.

The outcome of the deep test being drilled by the Grebo Royalties, Inc., will be watched with considerable interest. The results will have a bearing not only on the possibilities for the opening of a new oil pool, but as to a continuation, or extension of the unit operation of the structures, the disposition of government land which has not been leased, and to a more active development of lands which have been but slightly drilled during the past few years.

## ENGINEERS DISCUSS CONTROL OF PRODUCTION

(Continued from Page 46)

duction members were told that mineral products throughout the world were showing signs of exhaustion, that the overproduction in the oil industry would be more pronounced this year than in any other period of history, and that the Sherman act had the effect of causing an overproduction by preserving competition.

The only hopeful note was struck by a statistician who said that business as a whole had a stability and evenness of growth which had been so regular in the past that it was a normal thing to expect an increase in production from year to year.

### Judge Veasey's Address

A pessimistic picture of overproduction in the oil industry, despite the fact that the Federal Oil Conservation Board has for the past four years made an exhaustive study of it and sought to remedy the evil, was drawn by James A. Veasey, counsel for the Carter Oil Co., and one of a committee of nine representing the American Bar Association, the Federal Conservation Commission and the American Petroleum Institute, formed to study the problem.

"Reluctant always to subscribe to governmental interference in private enterprise," Mr. Veasey said, "the prophecy is justified that the American petroleum industry in the end must yield to the circumstances that surround and control it; that ignorance, selfishness, stubbornness, even honest differences of opinion, will defeat the policy of voluntary action on the part of the petroleum industry to meet the evil of competitive drilling and its necessary corollary, overproduction, and that in consequence the legislative power of the oil producing states must be invoked in some practical way to require the development and operation of the new oil pools of the country upon a co-operative basis.

"In its ultimate analysis the matter comes to this: The American petroleum industry through stress and circumstances must submit to the sword of the competitive system and at the same time it is destitute of the means to adapt its activities to that system."

### Antitrust Act

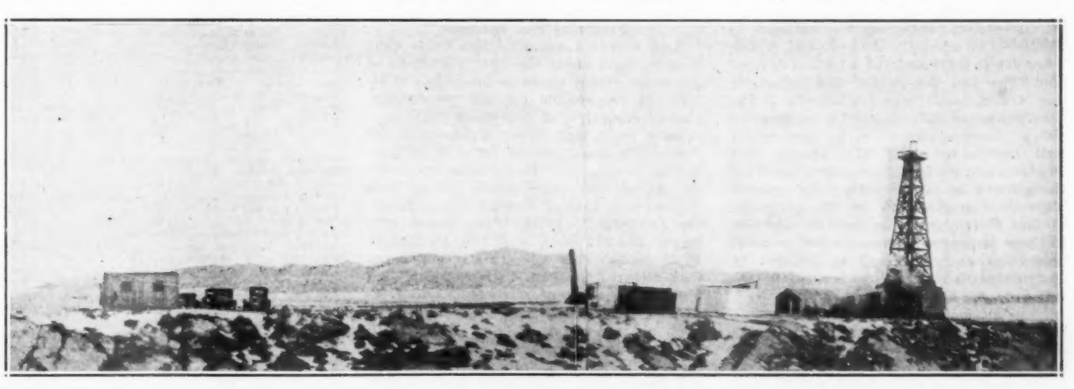
The Sherman Antitrust Act was called "the greatest obstacle in the way of production control," in a paper by Prof. W. H. Hamilton of the Yale law faculty.

"The attempts to preserve competition results in increased overproduction and a plague of bankruptcies and reorganizations which makes it impossible to have decent standards of living," he said. "A definite control of production is necessary if industry is to do what we want it to do, and that is to provide consumers with low prices and laborers with high wages.

"However, I should hesitate to have the Sherman Act repealed unless we could put some other responsible instrument in its place. To repeal the act would be a serious danger to the interests of stockholders, laborers and consumers alike. The art of production has been revolutionized by technology. We need a similar constructive attack on the problem of organizing in industry."

A safe basis for production control is provided by the knowledge that there is a normal rate of growth of production and trade, which can be calculated in advance, according to Carl Snyder, economist and statistician of the Federal Reserve Bank. He showed how American industries have progressed from year to year. The fluctuations of booms and depressions, he said, do not affect more than 5 per cent of a staple industry's total production. By this gauge, he said, production and credit can be so adjusted as to relieve industry from the constant dread of recurrent depressions and booms.

Problems dealing with petroleum engineering education, petroleum research,



*Grebo Royalty, Inc., No. 1 State well on Little Buffalo Basin structures, Park County, Wyoming, showing in the background the 500-foot escarpment which entirely encircles the domes.*

and production were discussed at the closing sessions. With overproduction as an underlying consideration, nine papers were read at the morning session, under the chairmanship of John M. Lovejoy.

Speaking on "Oil Production in the Permian Basin, West Texas, and New Mexico," A. R. Denison, division geologist of the Amerada Petroleum Corp., at Fort Worth, said that in the Permian Basin production will continue to be produced under proration agreement, and at the present allowance this year's production will not greatly exceed that of 1928. The Permian Basin, last year, produced 57 per cent of all the oil produced in Texas. Mr. Denison gave 255,021,000 bbls. as the total oil output in 1928.

In "Petroleum Development in North Central and West Central Texas During 1928," W. G. Wender, geologist of the Amerada Petroleum Corp., at Cisco, Tex., said the region covered in his paper produced an approximate total of 49,816,000 bbls. in 1928, representing a decrease of about 8,000,000 under 1927 production.

Olin G. Bell, division geologist of the Humble Oil & Refining Co., at Laredo, Tex., in his paper, "Review of Petroleum Development in Southwest Texas During 1928," announced that 10 new producing areas were discovered and several extensions in oil and gas-producing fields in southwestern Texas during 1928.

"Texas-Louisiana Gulf Coast Operations," was the title of a paper by W. F. Bowman and J. M. Vetter, consulting geologists at Houston, Tex., who said: "The Gulf Coast area of Texas and Louisiana produced a total of 47,070,650 bbls. of oil during 1928, a decrease of 7,401,173 bbls. from the previous year. Of this amount Texas produced 39,353,950 bbls., or a decrease of 9,689,296 bbls. from the 1927 output. The Louisiana Gulf Coast produced 7,716,700 bbls., which is an increase of 2,288,123 bbls. over 1927."

The Rocky Mountain region was covered in a paper by Dean E. Winchester and C. D. Johnson, geologists of Denver, Colo., entitled, "Petroleum Development and Production in the Rocky Mountain Region During 1928," in which they said: "Oil production in the Rocky Mountain states has shown a slight increase during the year, the average daily production for November being 78,124 bbls. as against an average in January of 76,681 bbls."

Other papers were "Review of Appalachian Fields, Including Kentucky and Tennessee," by Jerry B. Newby, vice president of the Petroleum Reclamation Co., Oklahoma City; "Arkansas and Northern Louisiana," by H. A. Schneider, and "Illinois and Indiana," by Gail Moulton.

At the afternoon session under the chairmanship of Warren A. Sinsheimer of New York, papers were presented by W. R. Wardner, mining and petroleum engineer, of Bakersfield, Calif.; E. P. Hindes, of Bartlesville, Okla., representing the Empire Oil & Refining Co., and Anthony Folger, of the Gypsy Oil Co., Wichita, Kans.

## WATERWAYS INTEREST PETROLEUM INDUSTRY

(Continued from Page 40)

other projects. But there is no difference of opinion as to the necessity of gradually increasing these appropriations to $100,000,000 annually if the inland waterways are to be completed within a reasonable time and the public, and especially the farmer, is to have the benefit of the functioning of this wonderful system for cheap transportation. It is now pretty well understood, and Mr. Hoover has emphasized this fact in his speeches, that the growth of the country will provide more than ample work for the railroads, so that there can be no further objection to these improved transportation methods from that source and it is believed no obstructive tactics will be favored by the railroads.

Last December President Coolidge, in his message to Congress, said that projects for inland waterways already adopted and not completed call for $242,000,000. At the last session the rivers and harbors bill failed to pass Congress and no bill has passed for these projects in the present session, but advocates of river and harbor improvements are hoping to have the aid of the President-elect so that the necessary legislation may be passed in the extra session after March 4 to consider farm relief and it is regarded as highly important for the progress of the work that this be done. It is considered particularly important that the upper Mississippi and Missouri Rivers, which have channels of 6-foot depth, should be deepened to 9 feet to make them equal in depth to the channel of the Ohio River.

### Hoover's Position

Engineers say that all traffic would be moved very much more readily and in larger volume with the larger vessels that would be possible and that rates on both farm products and on products of petroleum would respond to the more economic methods to the advantage of every one.

President-elect Hoover's address delivered at St. Louis was so forceful in its references to the improvement of inland waterways that senators and representatives from states in which these waterways lie are convinced he will not fail to lend his influence to the uttermost for the accomplishment of these objects.

"Any engineer presented with the conclusive advantage of construction of a great work and having the resources with which it can be constructed, has only one conception of it," declared Mr. Hoover, "which is its earliest possible completion in order that the returns of those works may be quickly brought into being."

Engineers and economists who have devoted much time to the study of inland waterways and the traffic they bear are convinced that not only civic organizations and farm interests should unite in promoting this cheap transportation, but that the oil industry itself should join as far as possible to lower the cost of delivering its products to remote regions reached by this network of inland waterways, especially since that industry today furnishes more patronage for water transportation than any other. Any incidental advantage of this project to the oil interests will be of still greater advantage to the farmers not only in the distribution of their products but in receiving supplies.

## PAST FIVE YEARS A GUIDE TO PRODUCERS

(Continued from Page 42)

ginia and Illinois show a decline. West Virginia dropped from 15,710 bbls. to 14,900 bbls. and Illinois from 20,323 bbls. to 16,500 bbls. Taken altogether the fields east of the Mississippi River have increased their production 16 per cent in five years.

When a lot of old fields, some of which have been producing over a half century, can show an increase in production in their old age, what may be expected of the newer producing divisions? Some of these have increased vastly but others have declined greatly and perhaps permanently. North Louisiana has dropped off 17,684 bbls. a day in five years; Arkansas 38,740 bbls., and the Rocky Mountain fields 71,298 bbls., for which Salt Creek, Wyo., is altogether responsible with its decline of 93,640 bbls. East Central Texas (the Mexia-Powell area) has fallen from 133,057 bbls. to 29,977 bbls., a drop of 111,080 bbls.

### Fields of Big Increase

And now we come to the fields that have brought about the overproduction of the more recent times and which are altogether responsible for the present-day glutted condition of the crude market.

Five years ago West Texas and the Panhandle amounted to little as oil producing territory. They were not even segregated, their production having been carried with that of North Central Texas. On January 1, 1929, West Texas produced 353,273 bbls. and the Panhandle Field 58,605 bbls. North Central Texas was credited with an increase of 33,506 bbls. and the three divisions, North Central, West Texas and the Panhandle show an increase of 445,384 bbls., or 415 per cent, in five years. Kansas has increased 24,872 bbls., and Oklahoma 319,814 bbls. a day. California shows a gain of 43,653 bbls. a day. Altogether the fields of the United States show a gross increase of 934,500 bbls. and a gross decrease of 243,435 bbls., or a net increase of 691,065 bbls. in five years.

### Enormous Reserve Acreage

In the light of what has occurred in the past five years it would be unsafe to say that all of the fields and pools mentioned in the accompanying tables will have declined in the five years to come. A considerable majority of them will do so, but a look over the possible oil-bearing regions of the United States, covering hundreds of thousands of square miles, as yet without a barrel of production, leads to the conviction that the executive speaking in St. Louis had good cause for saying that we are facing a long period of overproduction unless a conscientious effort is made to keep some of the potential production in the ground until it is needed. Kansas, Oklahoma, Texas and California hold out promise of great oil fields and the Rocky Mountain states and Arkansas and Louisiana are by no means considered hopeless as large producers even though they have shown a marked decline in the past five years.

**PRODUCTION OF THE UNITED STATES**
**Changes in Crude Oil Output in 5 Years in Large Producing Divisions**

| | Prod. Jan. 1 1924 bbls. | Prod. Jan. 1 1929 bbls. |
|---|---|---|
| New York | 3,258 | 8,200 |
| Pennsylvania | 17,452 | 27,650 |
| West Virginia | 15,710 | 14,900 |
| Ohio | 16,580 | 17,200 |
| Indiana | 2,258 | 3,100 |
| Michigan | | 2,400 |
| Kentucky-Tennessee | 19,174 | 20,300 |
| Illinois | 20,323 | 16,500 |
| Kansas | 72,263 | 97,135 |
| Oklahoma | 399,606 | 719,420 |
| North Central Texas | *107,359 | 140,865 |
| West Texas | | 353,273 |
| Texas Panhandle | | 58,605 |
| East Central Texas | 133,057 | 21,977 |
| Gulf Coast-S.W. Texas | 99,920 | 180,659 |
| North Louisiana | 54,084 | 36,400 |
| Arkansas | 118,925 | 80,185 |
| Rocky Mountain States | 149,400 | 78,102 |
| California | 674,597 | 718,250 |
| Total | 1,903,966 | 2,595,031 |
| Increase in 5 years | | 691,065 |

*Included West Texas and Panhandle.

**FIELDS DEVELOPED IN FIVE YEARS**

| | Prod. Jan. 1 1924 bbls. | Prod. Jan. 1 1929 bbls. |
|---|---|---|
| St. Louis-Pearson, Okla. | | 137,900 |
| Seminole City, Okla. | | 39,900 |
| Earlsboro, Okla. | | 68,000 |
| Bowlegs, Okla. | | 42,550 |
| Searight, Okla. | | 9,000 |
| Little River, Okla. | | 91,030 |
| Maud, Okla. | | 25,400 |
| Seal Beach, Calif. | | 29,000 |
| Winkler County, Texas | | 160,700 |
| Pecos County, Texas | | 73,100 |
| Upton-Crane, Texas | | 51,700 |
| Hutchinson Co., Texas | | 27,665 |
| Inglewood, Calif. | | 16,500 |
| Ventura Ave., Calif. | | 50,500 |
| Elwood, Calif. | | 14,750 |
| Howard County, Tex. | | 35,900 |
| Rosecrans, Calif. | | 10,800 |
| Braman, Okla. | | 3,700 |
| Wilbarger County, Tex. | | 30,500 |
| Davenport, Okla. | | 1,700 |
| Urania, La. | | 6,000 |
| Gray County, Tex. | | 21,950 |
| Papoose, Okla. | | 3,600 |
| Wortham, Tex. | | 1,400 |
| Boggy Creek, Tex. | | 2,500 |
| Jones County, Tex. | | 6,000 |
| Champagnolle, Ark. | | 11,850 |
| Carson County, Tex. | | 5,750 |
| Logan County, Okla. | | 18,450 |
| Sumner County, Kans. | | 13,200 |
| Sedgwick County, Kans. | | 6,900 |
| Shackelford Co., Tex. | | 11,200 |
| Sholom-Alechem, Okla. | | 14,300 |
| Oklahoma City, Okla. | | 5,650 |
| Cromwell, Okla. | | 4,050 |
| Refugio, Tex. | | 707 |
| Medina County, Tex. | | 30 |
| McMullen County, Tex. | | 50 |
| Bayou Bouillon, La. | | 335 |
| Hackberry, La. | | 7,223 |
| Lockport, La. | | 4,370 |
| Sorrento, La. | | 1,216 |
| Starks Dome, La. | | 820 |
| Sulphur, La. | | 3,200 |
| Sweet Lake, La. | | 1,100 |
| Cap Rock, N. Mex. | | 120 |
| Frannie, Wyo. | | 300 |
| Ferris, Wyo. | | 20 |
| LaBarge, Wyo. | | 2,900 |
| Oregon Basin, Wyo. | | 2,890 |
| Byron, Wyo. | | 30 |
| Simpson Ridge, Wyo. | | 70 |
| Dutton Creek, Wyo. | | 50 |
| Rex Lake, Wyo. | | 140 |
| Moffat, Colo. | | 1,150 |
| Fort Collins, Colo. | | 2,510 |
| Iles Dome, Colo. | | 1,760 |
| Tow Creek, Colo. | | 580 |
| Artesia, N. Mex. | | 1,060 |
| Cap Rock, N. Mex. | | 120 |
| Rattlesnake, N. Mex. | | 1,900 |
| Hogback, N. Mex. | | 520 |
| Nevada County, Ark. | | 500 |
| Lisbon, Ark. | | 1,680 |
| Bradley, Ark. | | 100 |
| Mount Poso, Calif. | | 200 |
| Fruitvale, Calif. | | 1,350 |
| Round Mountain, Calif. | | 80 |
| Rincon, Calif. | | 4,100 |
| Dominguez, Calif. | | 10,400 |
| Newport, Calif. | | 30 |
| Potrero, Calif. | | 675 |
| Lawndale, Calif. | | 500 |
| South Liberty, Tex. | | 6,644 |
| Cotton Valley, La. | | 3,250 |
| Pleasant Hill, La. | | 500 |
| Montague-Cooke, Tex. | | 9,650 |
| Lytton Springs, Tex. | | 950 |
| Dale, Tex. | | 900 |
| Pondera, Mont. | | 500 |
| Michigan pools | | 2,500 |
| Big Creek, Tex. | | 2,301 |
| Brenham, Tex. | | 150 |
| Boling, Tex. | | 2,750 |
| DeWalt, Tex. | | 6,100 |
| Jasper, Tex. | | 10 |
| Nash Dome, Tex. | | 1,000 |
| Mirando, Tex. | | 900 |
| Raccoon Bend, Tex. | | 1,310 |
| Dale, Tex. | | 670 |
| Gonzales, Tex. | | 200 |
| Kingsville, Tex. | | 252 |
| Total daily prod. | | 1,148,097 |

**OLD FIELDS WITH INCREASED PRODUCTION**

| | Prod. Jan. 1 1924 bbls. | Prod. Jan. 1 1929 bbls. |
|---|---|---|
| Spindletop, Tex. | 840 | 36,322 |
| Big Lake, Tex. | 150 | 18,245 |
| Garber, Okla. | 5,200 | 6,500 |
| Luling, Tex. | 10,000 | 12,000 |
| Fullerton, Calif. | 9,795 | 14,500 |
| Teeter-Pixley, Kans. | 1,400 | 5,600 |
| Sunburst, Mont. | 475 | 7,000 |
| Bradford-Allegany, N. Y.-Pa. | 15,700 | 23,750 |
| Cromwell, Okla. | 340 | 4,050 |
| Seeley, Kans. | 5,500 | 5,675 |
| Caddo, La. | 10,340 | 11,500 |
| Brown County, Tex. | 215 | 9,610 |
| Mirando, Tex. | 3,900 | 13,600 |
| Pierce Junction, Tex. | 825 | 12,192 |
| Allen, Okla. | 397 | 27,750 |
| Cowley County, Kans. | 2,186 | 5,000 |
| Russell County, Kans. | 117 | 3,500 |
| Total | 67,374 | 217,187 |

**IMPORTANT OLD FIELDS WITH DECREASED PRODUCTION**

| | Prod. Jan. 1 1924 bbls. | Prod. Jan. 1 1929 bbls. |
|---|---|---|
| Smackover, (h'vy), Ark. | 104,930 | 51,996 |
| Long Beach, Calif. | 218,600 | 182,000 |
| Midway-Sunset, Calif. | 84,612 | 73,129 |
| Huntington Beach, Calif. | 64,000 | 50,000 |
| Salt Creek, Wyo. | 129,500 | 35,860 |
| Santa Fe Springs, Calif. | 138,000 | 120,500 |
| Burbank, Okla. | 72,711 | 24,276 |
| Tonkawa, Okla. | 42,400 | 11,430 |
| Elk Hills, Calif. | 22,406 | 19,248 |
| Archer County, Tex. | 20,000 | 18,300 |
| Stephens, Eastland-Comanche, Tex. | 37,200 | 14,000 |
| Powell, Tex. | 96,000 | 9,650 |
| Torrance, Calif. | 31,363 | 15,500 |
| Wewoka, Okla. | 11,300 | 5,300 |
| Bristow, Okla. | 46,600 | 19,500 |
| El Dorado, Ark. | 11,990 | 4,890 |
| Butler County, Kans. | 32,548 | 26,715 |
| Cushing-Shamrock, Okla. | 24,200 | 21,200 |
| Coalinga, Calif. | 17,605 | 10,000 |
| Hull, Tex. | 17,400 | 10,110 |
| Montebello, Calif. | 17,065 | 10,991 |
| Electra, Tex. | 19,900 | 13,000 |
| Smackover (light), Ark. | 27,805 | 7,050 |
| Healdton, Okla. | 17,250 | 13,000 |
| Mexia, Tex. | 35,000 | 6,100 |
| Kern River, Calif. | 19,031 | 18,000 |
| Hewitt, Okla. | 20,100 | 8,635 |
| Graham-Fox, Okla. | 13,500 | 6,050 |
| Mounds-Beggs, Okla. | 12,400 | 6,100 |
| Orange, Tex. | 12,750 | 3,170 |
| Haynesville, Okla. | 22,610 | 5,540 |
| West Columbia, Tex. | 13,300 | 7,256 |
| Goose Creek, Tex. | 12,700 | 6,400 |
| Ventura-Newhall, Calif. | 9,124 | 5,650 |
| Homer, La. | 8,740 | 4,045 |
| Stroud, Okla. | 22,700 | 1,010 |
| | 1,507,340 | 826,121 |

## SKY THE LIMIT IN LEA COUNTY CAMPAIGN

(Continued from Page 38)

vicinity of the Empire Gas & Fuel Co.'s well. Many others, however, are of the opinion that a series of parallel highs coming out of the Permian Basin and running northwesterly through West Texas into New Mexico will be found.

Skelly Oil Co.'s No. 1 Joyner, Section 26-25s-36e, is the best completion in the county. Recently it was completed at a total depth of 3,331 feet and is estimated to be good for 1,200 bbls. It has been pinched down to 2 bbls. per hour. Midwest Oil Co.'s No. 1 State, Section 9-19s-38e, 40 miles to the north, produced 1,200 bbls. on its best 24-hour gauge but was later drilled into some water at 4,245 feet which has been plugged off.

Marland company's No. 1 Lockhart, Section 21-31s-36e, Texas Pacific Coal & Oil Co.'s No. 1 State, Section 22-33s-36e and Midwest Oil Co.'s No. 1 State C, Section 13-26s-36e, are the three most interesting tests in the county at this time. Two important tests of The Texas Company are fishing.

No. 1 Lockhart on its best gauge made 100 bbls. from 3,805 to 3,918 feet but at 3,943 feet sulphur water was encountered. The hole was deepened 2 feet without increasing the water. The last available gauge on the well showed it to be making 75 bbls. of net oil and two-thirds of a bailer of water per hour.

Operations have been shut down, but

the well may be deepened. The formations apparently are hardening and the well may be shot. It is the only promising well in the county that can be shot because it is not making the big volume of gas the others are making. The water in the Lockhart was found 32 feet higher than the first water in the Gypsy Oil Co.'s No. 1 State, 3 miles to the east, which is being plugged back to be completed as a gas well.

Texas Pacific company's No. 1 State is scheduled to drill plug early this week. Both of these wells are located on the west dip of the big high which many believe will be the most productive. On top on the east side are most of the gas wells. However, the east side has not been as extremely explored as the west dip.

Midwest company's No. 1 State T. topped lime at 2,710 feet or 249 feet above sea level and was drilled to a total depth of 2,914 feet where pipe will probably be set. This same company made a location a few days ago for No. 22 Gregory Permit, 990 feet south and 1,650 feet from the west line of Section 31-25s-37e. This is about 1 mile morth of The Texas Company's No. 1 Sheppard and about 1½ miles south of the Marland company's No. 1 Sholes. The former well is good for around 160 bbls., while fishing at 3,223 feet and the oil is increasing. The fishing job is being slowly cleaned up.

The Marland Oil Co. is the most extensively interested company in Lea County and has drilled six holes and is drilling seven at present. At one time Marland company had more than 1,000,000 acres under lease in Lea County. Some time ago the Marland company made a trade with the California company, selling a quarter interest in around 425,000 acres for $500,000.

Most of the land in the county is owned by the State and Federal governments and consequently most of the exploration work has been done on state and federal permits.

Twenty-two wells have been completed in Lea County, not including a few shallow holes around 500 feet deep that were drilled to meet permit obligations. There are 35 operations carried on scouting reports as active.

Two pipe line companies have anticipated big production in the county and made surveys for lines. The Texas Pipe Line Co. made a survey for an extension of its 10-inch gathering system in Winkler County and the Humble Pipe Line Co. surveyed to extend its 8-inch line running into the Leck area on north into Lea County.

### Big Gas Area

Regardless of the final outcome for the search for oil production the area seems to have good chances of being developed into a big gas area. Already several big gas wells have been completed and indicate an enormous gas reserve. A market and outlet for part of this gas is being built now. A gas line is being constructed from a point near Jal to El Paso and it is expected to be in operation in a few months.

The vastness of the structural relief of the big lime may be gained by a study of the accompanying map and tabulation of drilling wells and completions giving elevations, lime tops and salt tops. The top of the lime varies from 713 feet above sea level in the Marland company's No. 1 Meyers, to 865 feet below sea level in the C. E. Reynolds Drilling Co.'s No. 1 Anderson in Section 29-13s-37e, which topped the lime at 4,770 feet with a surface elevation of 3,905 feet.

## WEST TEXAS FIELDS

(Continued from Page 48)

others swabbed 1,020 bbls. at 2,201-56 feet. Moody Oil Corp.'s No. 9-E Roberts made 1,066 bbls. at 2,972-97 feet. Pure Oil Co.'s No. 9 Otis Chalk swabbed 125 bbls. at 1,694-1,721 feet.

### Pecos County

Atlantic Oil Producing Co.'s No. 1 Sellman, 330 feet from south and 2,310 feet from east of Section 17, Block 2, was dry and abandoned at 1,864 feet. California Co.'s No. 1 Smith Lease No. 1, Section 21, swabbed 1,759 bbls. in five hours at 1,405-1,520 feet. Its No. 1 Smith, Lease No. 5, in Section 16, Block 194, was dry and abandoned at 2,078 feet. M. C. Dibble's No. 1 Bonebrake was dry and abandoned at 2,004 feet.

### Tom Green County

McLaughlin & Ridge's No. 1 Holder, 3,140 feet from south and 80 feet from east of Section 3, was dry and abandoned at 3,005 feet.

### Upton County

Champlin Oil Co.'s No. 4 Lane, 990 feet from south and 2,310 feet from east, Section 3, G.C.&S.F.R.R. Survey, had an initial production of 50 bbls. oil and 500 bbls. water at 1,940-79 feet.

### Ward County

Rector Oil Co.'s No. 1 Johnson, 1,150 feet northwest and 5,160 feet northeast, Section 10, Block 32, H.&T.C.R.R. Survey, was dry and abandoned at 2,677 feet.

### Winkler County

Atlantic Oil Producing Co.'s No. 4 Ida Hendricks, SW W half NE, Section 44, Block 26, made 555 bbls. daily at 2,808-2,920 feet. V. T. Bolin's No. 1 Brown, Section 4, Block B-5, was drilled to a total depth of 3,211 feet, plugged back to 2,860 feet, topped the pay at 2,800 feet and swabbed 15 bbls. Humble Oil & Refining Co.'s No. 8 Hendricks-B, made 386 bbls. hourly, 25 per cent water, at 2,620-2,710 feet. Its No. 1-C Hendricks, Lease No. 2, was drilled to a total depth of 3,055 feet, plugged back to 2,978 feet and pumped 50 bbls. Magnolia Petroleum Co.'s No. 1 Scarborough made 210 bbls. at 2,862-3,030 feet. Warner-Quinlan's No. 1 Lum Daugherty made 87 bbls. hourly at 2,991-3,105 feet.

### YATES POOL—PECOS COUNTY
**Week ending February 19**

| Company, lease— | Wells | Prod. |
|---|---|---|
| California Co.: | | |
| Yates, lease 1 | 17 | 7,399 |
| Smith, lease 1, Sec. 27 | 3 | 409 |
| Smith, lease 1, Sec. 23 | 6 | 1,073 |
| Smith, lease 1, Sec. 21 | 2 | 1,040 |
| Smith, lease 2 | 2 | 145 |
| Smith, lease 3 | 12 | 2,128 |
| Tippett, lease 1 | 1 | 36 |
| Cosby Drilling Co.: | | |
| Smith | 1 | 371 |
| Gulf Prod. Co.: | | |
| All leases | 32 | 11,278 |
| Humble Oil & Ref. Co.: | | |
| M. A. Smith | 10 | 1,393 |
| Smith-B | 5 | 775 |
| Kirby Pet. Co.: | | |
| Tippet | 2 | 60 |
| Kirby Pet. & Edson: | | |
| Tippett | 1 | 201 |
| Marland Oil Co.: | | |
| Yates-A | 8 | 785 |
| Matador Oil Co.: | | |
| Smith | 2 | 87 |
| Mazda & Savoy: | | |
| Smith | 3 | 670 |
| McMan Oil & Gas Co.: | | |
| Smith-A | 1 | 866 |
| Smith-B | 4 | 1,034 |
| Smith-C | 4 | 519 |
| Tippett | 2 | 279 |
| Richardson | 1 | 70 |
| McMan & Marland: | | |
| Yates | 16 | 3,456 |
| Mid-Kansas & Transcontinental: | | |
| Yates-A | 23 | 12,882 |
| Yates-B | 26 | 5,329 |
| Yates-C | 11 | 4,213 |
| Yates-D | 6 | 6,541 |
| Yates-E | 1 | 98 |
| Yates-F | 4 | 627 |
| Yates-G | 4 | 1,012 |
| Yates-H | 7 | 5,244 |
| Smith | 3 | 1,224 |
| Smith-Taylor | 18 | 2,685 |
| A. W. Hawse: | | |
| Pecos River Bed | 7 | 750 |
| Pecos Valley Oil Co.: | | |
| Fee, Sec. 22, Blk. 16 | 1 | 75 |
| Phillips Pet. Co.: | | |
| Smith | 1 | 75 |
| Red Bank Oil Co.: | | |
| Smith | 5 | 511 |
| Shell Pet. Co.: | | |
| Tippett | 11 | 2,104 |
| Smith | 9 | 1,037 |
| Smith-B | 1 | 683 |
| Smith-D | 3 | 451 |
| Smith-E | 1 | 30 |
| Simms Oil Co.: | | |
| Smith | 7 | 4,882 |
| Skelly Oil Co.: | | |
| Tippett | 1 | 90 |
| Texon Oil & Land: | | |
| Yates | 2 | 0 |
| Grand total Yates Field | 287 | 84,617 |

### WINKLER COUNTY
**Daily Average Production by Leases for the Week Ending February 19**
**Hendricks Pool**

| Company, farm, section and block— | Wells | Prod. |
|---|---|---|
| Amerada Pet. Corp.: | | |
| Cowden, 3, B-12 | 3 | 1,125 |
| Atlantic O. P. Co.: | | |
| Hendricks-A, 34, B-5 | 8 | 1,534 |
| Hendricks-B, 44, 26 | 3 | 505 |
| Hendricks-D, 29, B-5 | 8 | 2,435 |
| Hendricks-E, 41, B-5 | 6 | 4,439 |
| Hendricks-G, 40, 26 | 7 | 2,208 |
| Hendricks-H, 28, B-5 | 1 | 61 |
| Atlantic & Collett: | | |
| Hendricks-F, 40, 26 | 13 | 2,407 |
| Bankers Prod. Co.: | | |
| Hendricks, 30, B-5 | 1 | 849 |
| California Co.: | | |
| Hendricks, 29, B-5 | 8 | 1,359 |
| Cranfill & Reynolds: | | |
| Hendricks-A, 28, B-5 | 2 | 185 |
| Hendricks-B, 35, B-5 | 1 | 109 |
| Hendricks-C, 33, 26 | 2 | 295 |
| Hendricks-D, 33, 26 | 1 | 158 |
| Hendricks-E, 33, 26 | 2 | 529 |
| Cranfill & Texon: | | |
| Hutchins, 47, 26 | 1 | 81 |
| Culberson Brothers: | | |
| Hendricks, 40, B-5 | 1 | 103 |
| Eastland Oil Co.: | | |
| Hendricks, 33, B-5 | 2 | 431 |
| Hendricks-B, 35, B-5 | 1 | 241 |
| Gulf Prod. Co.: | | |
| Hendricks-A, 34, B-5 | 13 | 5,011 |
| Hendricks-B, 45, 26 | 11 | 8,514 |
| Hendricks-C, 40, B-5 | 6 | 2,432 |
| Hendricks, 44, 26 | 1 | 345 |
| Cowden, 3, B-12 | 1 | 952 |
| Humble Oil & Ref. Co.: | | |
| Hendricks-A, 34, B-5 | 17 | 5,829 |
| Hendricks-B, 29, B-5 | 6 | 1,205 |
| Hendricks-C, 32, 26 | 8 | 889 |
| Hendricks-D, 47, 26 | 6 | 940 |
| Hendricks-C, 10, B-12 | 3 | 1,692 |
| Independent O. & G.: | | |
| Hendricks-A, 34, B-5 | 8 | 1,571 |
| Howe-B, 44, 26 | 2 | 104 |
| McCabe, 36, B-5 | 2 | 372 |
| Hendricks, 42, B-5 | 1 | 12 |
| Vardeman-B, 41, B-5 | 6 | 1,117 |
| Magnolia Pet. Co.: | | |
| Hendricks, 29, B-5 | 8 | 941 |
| Marland Oil Co.: | | |
| Hendricks, 33, 26 | 4 | 1,230 |
| Hendricks-A, 29, 26 | 2 | 194 |
| Hendricks-B, 34, 26 | 2 | 300 |
| May Prod. Co.: | | |
| Hendricks, 34, 26 | 1 | 21 |
| American Maracaibo: | | |
| Hendricks-A, 28, B-5 | 1 | 305 |
| Hendricks-B, 28, B-5 | 1 | 104 |
| Mining & Eng. Co.: | | |
| Hendricks, 10, B-22 | 1 | 198 |
| Murchison & Cranfill: | | |
| Hendricks-A, 35, B-5 | 3 | 1,061 |
| Hendricks-B, 35, B-5 | 3 | 940 |
| Hendricks-C, 35, B-5 | 1 | 32 |
| Hendricks-H, 33, 26 | 1 | 1,923 |
| Hendricks-I, 47, 26 | 2 | 865 |
| Prairie Oil & Gas: | | |
| Hendricks, 40, 26 | 6 | 2,115 |
| Cowden, 3, B-12 | 4 | 3,405 |
| Pure Oil Co.: | | |
| Hendricks-A, 41, B-5 | 11 | 2,378 |
| Hendricks-B, 34, B-5 | 13 | 4,689 |
| Hendricks-C, 45, 6 | 14 | 10,939 |
| Republic Prod. Co.: | | |
| Hendricks-A, 45, 26 | 6 | 2,698 |
| Hendricks-B, 41, B-5 | 5 | 1,426 |
| Hendricks-C, 42, B-5 | 6 | 246 |
| Shell Pet. Co.: | | |
| Hendricks-A, 45, 26 | 6 | 1,848 |
| Hendricks-B, 28, B-5 | 5 | 1,346 |
| Hendricks-C, 29, B-5 | 8 | 3,659 |
| Hendricks-D, 41, B-5 | 6 | 695 |
| Hendricks-E, 49, B-5 | 3 | 872 |
| Hendricks-F, 46, 26 | 8 | 2,937 |
| Hendricks-G, 39, 26 | 1 | 84 |
| Shell-The Texas Company: | | |
| Cowden-A, 3, B-12 | 6 | 1,551 |
| Hendricks, 45, 26 | 6 | 1,958 |
| Hendricks-A, 29, B-5 | 11 | 4,793 |
| Hendricks-B, 40, 26 | 6 | 1,207 |
| Hendricks-C, 40, 26 | 6 | 2,838 |
| Hendricks-D, 40, 26 | 6 | 1,096 |
| Hendricks-E, 40, 26 | 4 | 1,141 |
| Skelly Oil Co.: | | |
| Hendricks, 40, 26 | 12 | 8,912 |
| Hendricks-B, 39, 26 | 2 | 14 |
| Hendricks-C, 39, 26 | 1 | 533 |
| Southern Crude Oil Purchasing Co.: | | |
| T-67 Hendricks-A, 42, B-5 | 3 | 188 |
| T-67 Hendricks-3-A, 4, B-12 | 4 | 461 |
| T-67 Hendricks-B, 44, 26 | 5 | 682 |
| T-67 Hendricks-3-B, 33, 26 | 5 | 563 |
| T-67 Hendricks-C, 33, B-5 | 5 | 349 |
| T-67 Hendricks-2-D, 28, 26 | 4 | 665 |
| T-67 Hendricks-E, 42, B-5 | 4 | 128 |
| T-67 Hendricks-F, 33, B-5 | 4 | 684 |
| T-68 Hendricks-3-A, 33, B-5 | 3 | 152 |
| T-68 Hendricks-B, 46, 26 | 2 | 144 |
| T-88 Hendricks-A, 44, 26 | 6 | 926 |
| T-88 Hendricks-B, 4, B-12 | 3 | 968 |
| T-88 Hendricks-C, 29, B-5 | 7 | 952 |
| T-88 Hendricks-D, 4, B-12 | 5 | 3,660 |
| T-88 Hendricks-H, 28, B-5 | 6 | 1,160 |
| T-88 Hendricks-L, 30, B-5 | 7 | 1,736 |
| T-88 Hendricks-J, 30, B-5 | 5 | 1,612 |
| T-88 Hendricks-K, 41, 26 | 5 | 974 |
| T-88 Hendricks-L, 4, B-12 | 3 | 653 |
| T-88 Hendricks-M, 33, 26 | 30 | 13,033 |
| T-88 Hendricks-N, 28, 26 | 5 | 1,064 |
| T-88 Hendricks-O, 28, 26 | 2 | 211 |
| T-88 Hendricks-P, 28, 26 | 1 | 183 |
| T-88 Hendricks-Q, 27, 26 | 1 | 353 |
| T-88 Hendricks-R, 27, 26 | 2 | 685 |
| T-88 Hendricks-S, 34, 26 | 3 | 935 |
| T-88 Hendricks-T, 34, 26 | 6 | 772 |
| T-88 Hendricks-U, 41, 26 | 7 | 1,481 |
| T-88 Hendricks-V, 29, 26 | 1 | 113 |
| T-88 Hendricks-W, 5, B-12 | 1 | 332 |
| T-89 Hendricks-A, 35, B-5 | 3 | 203 |
| T-89 Hendricks-B, 35, B-5 | 2 | 286 |
| T-89 Hendricks-C, 35, B-5 | 2 | 554 |
| T-89 Hendricks-E, 40, B-5 | 2 | 80 |
| T-89 Hendricks-F, 40, B-5 | 1 | 103 |
| T-89 Hendricks-H, 46, 26 | 1 | 36 |
| T-89 Hendricks-I, 10, B-12 | 2 | 514 |
| T-89 Hendricks-J, 9, B-12 | 1 | 420 |
| T-90 Hutchings, 47, 26 | 1 | 57 |
| T-264 Hendricks, 5, B-12 | 1 | off |
| Texon Oil & Land Co.: | | |
| Hendricks-A, 41, B-5 | 6 | 863 |
| Hendricks-B, 45, B-5 | 5 | 1,026 |
| Winkler O. P. Co.: | | |
| Hendricks, 33, 26 | 1 | 80 |
| Grand total Hendricks Pool | 526 | 160,563 |

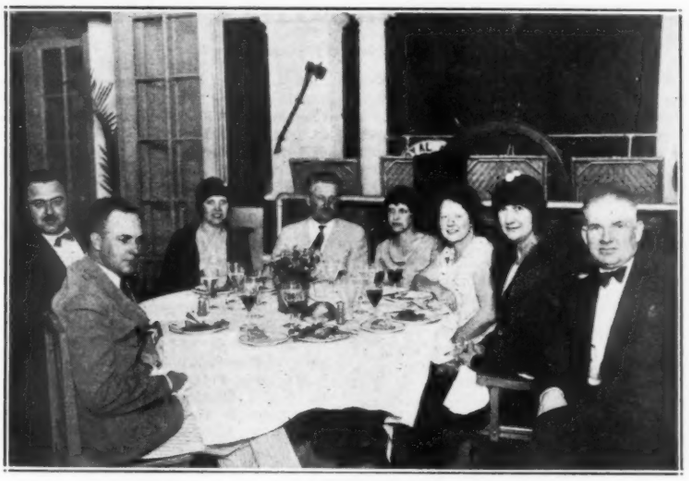
**LECK AREA**

| | | |
|---|---|---|
| Atlantic-Kesslar & Logan: | | |
| Leck, 3, 74 | 2 | 620 |
| Amerada Pet. Corp.: | | |
| Leck, 3, 74 | 2 | 548 |
| Empire G. & F. Co.: | | |
| Daugherty, 3, 74 | 2 | 161 |
| Magnolia Pet. Corp.: | | |
| Scarborough, 1, C-22 | 1 | 148 |
| Shell & Llano Oil: | | |
| Scarborough, 1, C-22 | 2 | 79 |
| Shell & Danciger: | | |
| Leck, 3, 74 | 2 | 497 |
| Prairie Oil & Gas Co.: | | |
| Daugherty, 3, 74 | 1 | 937 |
| Warner-Quinlan: | | |
| Leck, 3, 74 | 1 | 844 |
| Total Leck Pool | 13 | 3,834 |

**O'BRIEN POOL**

| | | |
|---|---|---|
| Marland Oil Co.: | | |
| Tobe Morton, 10, B-12 | 2 | 182 |
| Wentz Oil Corp.: | | |
| Tobe Morton, 10, B-12 | 1 | 326 |
| Richardson et al: | | |
| Stockton, 50, F | 1 | 314 |
| Total O'Brien Pool | 4 | 822 |
| Grand total Winkler County | 543 | 165,219 |

## TULSA OIL MEN VACATION IN HAVANA



When Tulsa was visited recently by unusually severe winter weather, a number of producers, refiners and manufacturers of oil field equipment decided it was a good time to obtain a brief vacation in Havana. It is said a regular "oil colony" was established in the Cuban metropolis. Shown in the picture above, left to right, are: Joseph Whittaker, vice president Omar Refining Co.; J. Guthrie Smith, Richmond, Va.; Mrs. Whittaker; Logan Van Zandt, Mid-Continent operator; Mrs. Van Zandt; Mrs. Smith; Mrs. M. J. Flanagan; and M. J. Flanagan, of the Gaso Pump & Burner Co.

## NEW COLOMBIAN AGREEMENTS

New agreements for the participation of American oil interests in the development of oil in Colombia will be considered at a special meeting of the Colombia legislature, according to advices. A contract is reported being worked out by Minister of Industries Montalvo and the Gulf Oil Corp. for construction of a pipe line to serve some of the most prolific producing areas. A 50-year contract for the development of between 750,000 and 1,000,000 acres of land which were held in the original Barco concession is being negotiated. The Barco concession has been canceled.

## PANHANDLE FIELDS

(Continued from Page 47)

No. 1 Young was dry and abandoned at 2,000 feet. Moss and others' No. 1 Moss was temporarily abandoned. Fosfer & Amsler's No. 1 Haas made 20 bbls. at 1,494-99 feet. Foster & Midsun's No. 2 Haas made 20 bbls. at 1,503-08 feet. Fred Harris' No. 1 Jones was dry and abandoned at 1,302 feet. Roth & Faurot's No. 1 Cox location was abandoned. Northrup and others' No. 1 Barker was temporarily abandoned at 1,100 feet.

**Eastland County**

Panhandle Oil & Refining Co.'s No. 1 Wheeler was dry and abandoned at 1,204 feet. Smith and others' No. 1 Downtain was dry and abandoned at 1,825 feet. Arledge and others' No. 1 Rich was dry and abandoned at 1,642 feet.

**Erath County**

Peters and others' No. 1 Moring made 12,000,000 feet of gas at 3,249-56 feet.

**Palo Pinto County**

Ashe Syndicate's No. 1 Hart was shot with 120 quarts at 3,395-3,434 feet and with 200 quarts at 3,395-3,450 feet and was dry and abandoned at 4,065 feet.

**Stephens County**

Texas Pacific Coal & Oil Co.'s No. 3 Hand was drilled to a total depth of 4,137 feet, plugged back to 3,898 feet, shot with 40 quarts at 3,878-98 feet and made 500,000 feet of gas.

**Shackelford County**

Earl & Dull's No. 4 Matthews made 225 bbls. at 1,139-36 feet. Midsun Oil Corp.'s No. 3 Nail was dry and abandoned at 1,475 feet. Roeser & Pendleton's No. 35-A-61 Cook made 40 bbls. at 1,254-77 feet. Roeser & Pendleton's No. 8-A-83 Cook made 50 bbls. at 1,398-1,407 feet. Their No. 1-A-88 Cook had a show of gas and water at 1,611-20 feet and was dry and abandoned. Tannehill and others' No. 5-27 Matthews made 100 bbls. at 1,144-74 feet.

### PANHANDLE COMPLETIONS

**Week Ending February 23**

**Gray County**

Magnolia Petroleum Co.'s No. 3 Harrah, 330 feet from NE cor. NW Section 150, Block 3, I.&G.N.R.R. Survey, swabbed 104 bbls. at 3,165-3,225 feet. Southern Petroleum Exploration Co.'s No. 2 McConnell, 990 feet from west line and 330 feet from south line NW cor. Section 174, Block 3, I.&G.N.R.R. Survey, was drilled to a total depth of 3,224 feet and made 500 bbls. at 3,207-21 feet. The Texas Company's No. 5 Davis, 330 feet south and west of NE cor. NW Section 86, Block 3, I.&G.N.R.R. Survey, swabbed 70 bbls. at 3,105-20 feet and 3,150-55 feet and was drilled to a total depth of 3,215 feet.

**Hutchinson County**

Phillips Petroleum Corp.'s No. 3 Pulaske (Johnson Brothers), 330 feet north and west of SE cor. W half Mary Whitley Survey, made 200 bbls. after having been shot with 80 quarts at 2,540-86 feet.

**Wheeler County**

Lone Star Co.'s No. 3 T. Jones, center of NW NE Section 1, Block 25, H.&G.N. R.R. Survey, made 51,000,000 feet of gas at 1,925-27 feet. Its No. 1 Shelton made 56,000,000 feet of gas at 1,840-1,903 feet.

## ASK REDUCTION OF WINKLER PRODUCTION

(Continued from Page 40)

the wells, and recent experience where the back pressure has been lifted has proven to us the serious consequences that follow. In this connection, I am attaching a copy of letter from Mr. Alsobrook, umpire in the field, addressed to operators, in which he cites the experience of the Bankers Producing Corp.'s well No. 1, in Proration Unit 12, Section 30, Block B-5, which was allowed to produce to its capacity. This experience should urge us to adopt a most stringent curb of production, if the greatest amount of oil is to be obtained from the Hendricks Field.

"In addition to the foregoing, that drastic action is needed in the curbing of crude oil becomes more and more pronounced throughout the United States, as each month the production or supply exceeds by far the ever increasing demand. At the present rate of production in the United States disaster is the ultimate result. With a crude surplus of 66,000,000 bbls., conservatively estimated for the present year at the present rate of production, the inevitable results are crude price cuts which will not enable the operator to produce his crude at a profit. Proration is seemingly the only course available to control this excessive output of crude, which is necessary if the industry expects to profit from its operations."

## FOUR RIGS RUNNING AT BOGGY CREEK; OTHER TESTS MOSTLY SHUT DOWN

By Neil Williams

CORSICANA, Tex., Feb. 25. — With the exception of Boggy Creek, where four rigs are running, the drilling report of East Central Texas was made up mostly of shut-down tests. There were no completions and daily average production was fairly steady at 22,315 bbls., an increase of only 226 bbls.

At Boggy Creek, Humble Oil & Refining Co.'s No. 3 Lizzie Smith, on the southeast side of the dome, tested only fresh water at 3,735 feet and is being plugged back to a shallower showing. In this field, the same company's No. 1-B Jones is drilling chalk at 3,404 feet, No. 4 Earle & Ragsdal is drilling shale at 2,553 feet and No. 1 Neches River is drilling out plug at 1,509 feet. No. 1-B Elliott & Clark, an offset to the latter, and No. 1 Gauger and No. 1 Purvey in the southwest extension, are waiting to be rigged.

J. S. Cosden and associates' No. 2 Douglass, Keechi Dome, Anderson County, still is delayed with drill stem stuck 8 feet off bottom at 3,562 feet. Pure Oil Co.'s No. 2 Willie Bruce, Bethel Dome, Anderson County, also has drill stem stuck, this test having drilled to 4,306 feet.

In Falls County, Yost and Hicks' No. 1 Pamplin, a Glen Rose test, started up again but all other tests have been shut down at previously reported depths. Henderson Petroleum Co.'s No. 1 Cade, Henderson County, shut down at 988 feet in shale, and in Leon County Ballard Oil Corp.'s No. 1 Tubbs has been shut down at 1,745 feet. Patty Oil Co.'s No. 1 Randall, Leon County, is standing at 305 feet with casing cemented at 298 feet to test a shallow showing.

Lyttle and associates' No. 1 Thompson, Trinity sand test in the Mexia area, has been shut down for repairs after drilling to 6,043 feet in shale. A. F. Richardson has completed a derrick for No. 1 Jones in Limestone County.

In Milam County, Milch & Clark's No. 1 Johnson is standing after bailing to the bottom at 1,954 feet. It bailed 11 bbls. the last day bailed.

Magnolia Petroleum Co. has rigged up for No. 1 Mirtieduran in Rusk County. Alexander & Heff have started drilling in No. 1 Anderson, Robertson County, and have set surface casing at 45 feet.

Daily average production for the week ending February 23 was:

**EAST CENTRAL TEXAS**

| | |
|---|---|
| Boggy Creek | 4,272 |
| Cedar Creek | 225 |
| Currie | 468 |
| Mexia | 5,827 |
| Minerva | 720 |
| Nigger Creek | 485 |
| Powell | 8,583 |
| Richland | 402 |
| Thrall | 35 |
| Wortham | 1,298 |
| Total | 22,315 |
| Total last week | 22,089 |
| Difference | 226 |

## PRAIRIE CRUDE STOCKS

The Prairie Oil & Gas Co.'s gross crude oil stocks in tanks in Kansas, Texas and Oklahoma, and in transit, on January 1 were 51,771,256 bbls. and on February 1, 52,305,056 bbls., indicating the company had run to storage 533,800 bbls. in January.

## REFINERY MARKET CONTINUES STRONG

(Continued from Page 36)

cent on Monday and Tuesday due to a slow-up in buying.

Manufacturers generally are sold up for February and in two or three cases at least they are oversold. With the start of a new month more material will be available. Continued strength in natural gasolines is predicted for March although some are of the opinion that due to the low refinery prices it will be necessary to lower prices from the present levels in order to secure a steady demand from refiners.

The natural gasoline market already has benefited from the Sunday shutdown movement in the Greater Seminole area. At least two manufacturers lost so much production at their plants that they were forced to buy in the open market to take care of their committments for February. This buying was an important factor in the market last week. An article on page 132 of this issue explains the results of last Sunday's shutdown in Seminole.

**Contracts**

During the past week a large buyer in the Gulf Coast area has purchased substantial quantities of natural gasoline from Oklahoma manufacturers on contract. It is estimated that the contracts closed total from 350 to 400 cars monthly. These contracts are based on the published price on date of shipment. At least one contract has a minimum and maximum clause based on the prevailing market for U. S. Motor gasoline. The object of these provisions is to protect the seller in case of a large slump in spot prices and also protect the buyer when the spot market on natural gasoline greatly exceeds the spot price for U. S. Motor gasoline. These contracts are for Grade AA.

**Gasoline and Naphtha**

As previously stated the larger refiners have not changed their prices to the trade on the principal domestic grades of gasoline. Most of these sellers were selling U. S. Motor gasoline at 7 cents to the trade. A week ago this grade was available as low as 6¾ cents but the low on Tuesday for good material was 6⅝ cents with many sales at 6¾ cents. Of the higher gravities the 64-66 375 domestic aviation grade appeared to be the weakest. The price to the trade was 7¾ cents to 8 cents with a few sales at 8 cents.

Naphtha prices are unchanged. Due to the high natural gasoline prices blenders in several instances have been forced to advance their price one-quarter to one-half cent. The better grades were bringing from 6¾ to 7 cents the first of the week.

The average price of representative refiners for the U. S. Motor gasoline on Monday was 6.77 cents. The prices reported ranged from 6½ to 7¼ cents.

**Kerosene**

Kerosene prices advanced one-fourth cent during the week. The 41-43 water white grade was selling at 4½ to 4⅝ cents with a low of 6 cents on the 42-44 water white grade. The demand from jobbers has improved, and one exporter made inquiries for shipment next month.

Some of the refiners are storing small quantities of kerosene in order to take care of their customers when the spring demand get under way next month.

**Fuel Oil and Gas Oil**

The general situation in regard to the fuel oil and gas oil has been explained. A few refiners for several months had considerable high cold test fuel oil and gas oil for which they had practically no market. During the past month, however, inter-refinery buying in Oklahoma has taken a large part of this material out of the market.

This high cold test fuel oil and gas oil makes excellent charging stock for cracking units, and refiners with excess capacity have been buying it from other refiners. The first of the week the additional material available was confined to two refineries in Oklahoma.

Outside of these plants a low of 55 cents had been established on fuel oil regardless of gravity and gas oil was selling at 3⅛ cents.

**Lubricants and Wax**

Cylinder stock and bright stock prices are unchanged. One large manufacturer reported an improved demand for neutral oils, which have been dull for several months. The wax movement, if any, during the week, was small. The larger manufacturers continue to insist on higher prices than are available from the export buyers.

## REPRESSURING METHOD IN GASOLINE PRODUCTION

(Continued from Page 42)

oil producer in the repressuring operation. This has been mentioned, not so much to point out any assumed obligation on the part of the manufacturer to the producer, but in an attempt to show that by such a system of co-operation, and even of promotion of the idea, the natural gasoline manufacturer would profit. Otherwise, he would have little interest in the project except for profit for operation of his compression machinery. He has everything to gain by co-operation with the producer. Increased production of oil means increased production of gasoline and with a plant usually ready to process more gas than is at that time available the result is increased production of gasoline at a minimum cost.

With the present overproduction of crude oil and its products and the present attempts to stabilize the industry, the question may be raised as to whether efforts to increase production are justified. Repressuring is simply a method of adding to the efficiency of production on properties already in an active stage, or about to be abandoned with large remaining reserves. Proration should be directed to restricting the production of flush properties or delaying the opening of additional new fields. Conservation along the line of repressuring should not be held back because of temporary market conditions. The application of the system with no desire to greatly increase production at once means that reservoir pressures can be built up and conditions generally prepared for maximum production when the market demands are favorable.

**Application of Vacuum**

The application of vacuum has, in the past, followed closely on the decline of oil production with favorable increases in ultimate oil, and with a resulting increase in gasoline produced. It is doubtful if high vacuum can be successfully applied with gas at any considerable pressure being introduced in repressuring wells on the same property. Even with minimum inputs of gas, velocities are apt to become excessive in the neighborhood of the producing wells, which results in the oil being by-passed by the gas, and may often result in channeling or breaking through. This all occurs with a low average applied pressure, and a poor condition of oil for travel in the sand.

The natural gasoline manufacturer has been benefited so much by the application of vacuum that he may question the relative advantage to him of the application of repressuring as against that of vacuum. Here again definite figures are not available, but certain data would indicate that where the application of vacuum would apparently increase the ultimate recovery of oil by about 30 per cent, application of repressure operations would apparently give a 50 per cent increase in ultimate. However, although the two systems cannot generally be applied on the same property with any great degree of success, it must not be forgotten that there will undoubtedly be a time in the application of repressuring when the sand is depleted to a point where it is next to impossible to maintain any pressure in the reservoir; whereupon the last stage of extraction of both crude oil and gas would be with the application of high vacuum. To assist in this operation

and increase the returns in most cases, it might be advantageous to continue the introduction of gas, but this operation would only be carried on for the purpose of stripping the last remaining portion of the crude oil of the lighter ends and not with the object of maintaining any reservoir pressure. As to whether such recompression would be profitable depends entirely upon the selling price of gasoline and the compression cost of the amount of gas required to bring a gallon of gasoline to the surface.

In conclusion, it may be said that repressuring has come to be a successful method of rejuvenating old producing properties, and is coming to have an important place in production operations earlier in the life of the property.

Increases in ultimate recovery of crude oil are worth while; in some cases are notably so. Recovery of gasoline should be in approximate direct ratio. The situation presented is one of opportunity for co-operation with mutal profit and advantage.

## E. H. SALRIN, TULSA, HEADS TIDAL OIL CO.

E. H. Salrin was elected president of the Tidal Oil Co. at a meeting of the board of directors of the company on Monday. Mr. Salrin has been vice president and head of the land department.

E. H. Salrin

He succeeds M. P. Williams, of New York, who will in the future devote all his time to the Associated Producers Co., the eastern producing subsidiary of the Tidal, of which he is president. Mr. Salrin will continue to reside in Tulsa but it is expected he will later make his headquarters in New York. Mr. Williams will continue as a director of the Tidal Oil Co., and together with Robert McKelvey of New York was present at Monday's directors' meeting. E. H. Salrin has been active in the Mid-Continent Field for 15 years and previous to going to the Tidal Oil Co. was with the Laurel Oil & Gas Co. He was secretary and treasurer several years and then made vice president and head of the land department.

The advancement of Mr. Salrin left a vacancy in the land department which has been filled by the appointment of R. V. L. Stratton with the title of superintendent of the land department, Oklahoma-Kansas division.

### ON INSPECTION TRIP

F. A. Leovy, vice president of the Gulf Oil Corp., headed a party of officials of that concern making a tour of the Mid-Continent and Gulf Coast fields. Accompanying Mr. Leovy were H. A. Gidney, comptroller of the company, and K. C. Heald, chief geologist. Following the inspection, the party will return to their offices in Pittsburgh, Pa.

## STATUS OF OKLAHOMA PRORATION SHOWN BY PRODUCTION FIGURES

By J. L. Dwyer

As the end of the first proration period in the flush fields of Oklahoma draws to a close, it finds some progress being made in reducing the output of the majority of the pools of the Greater Seminole area. There has been little proration apparent in the Maud Pool, but the new wells which have been drilled in since February 15, and which are not yet subjected to proration, have confused the figures in this region.

Briefly stated, records of the pools show that about 51,848 bbls. daily have been eliminated through proration. The average production for the first five days of February, which was the basis upon which proration was based, follows:

| | Bbls. |
|---|---|
| Little River | 102,836 |
| Maud | 36,489 |
| Bowlegs | 41,695 |
| Earlsboro | 66,397 |
| Seminole | 39,825 |
| Searight | 9,218 |
| St. Louis | 129,624 |
| Total | 425,084 |

It was this figure of 425,084 bbls. which was to be reduced by proration. After 12 days of prorating the output of the pools which were subject to reduction through this means was as follows:

| | Bbls. |
|---|---|
| Little River | 82,278 |
| Maud | 38,676 |
| Bowlegs | 33,089 |
| Earlsboro | 59,723 |
| Seminole | 34,608 |
| Searight | 10,676 |
| St. Louis | 114,186 |
| Total | 373,236 |

The St. Louis Field has been the scene of some proration, although the current output is more than the production of the five days' average. The pool is now making 114,186 bbls., and there has been approximately 16,000 bbls. of new production developed in that pool since the figures for the first five days of February were taken.

The Sunday shutdown movement is gaining support. On Sunday, February 24, there were nine large companies participating in the movement. They were Barnsdall Oil Co., Prairie Oil & Gas Co., Mid-Continent Petroleum Corp., T. B. Slick, Inc., Indian Territory Illuminating Oil Co., Tidal Oil Co., Atlantic Oil Producing Co., Shaffer Oil & Refining Co., and Shell Petroleum Corp. The combined efforts of these companies reduced Sunday's output by 79,000 bbls.

The umpire and his staff are now making preparations to handle the second period of proration which will be from March 1 to March 15 inclusive. The details of proration for this period are outlined in the following letter which was mailed out to all producers this week in order to give them ample time to familiarize themselves with the program:

"Due to the Mission Pool having been subject to agreements whereby no wells were placed on full production until February 16, 1929, it was decided to permit the wells in the Mission Pool to produce to full capacity until March 1, 1929. On this date the Mission Pool will come into the general proration plan and you will be notified on March 2 the percentage of allowed production. We will require from the operators in the Mission area affidavits showing the average daily production by leases for the period, 7 a.m. February 26, 1929, to March 2, 7 a.m., and this average shall constitute the potential for the period March 1, 1929, to March 15, 1929.

"The allowed production for Seminole City, Bowlegs, Searight, Earlsboro, Little River, St. Louis and Maud during the period February 14 to March 1, 1929, will remain the same as in my letter of February 12.

"The Greater Seminole area will be opened to full production from 7 a.m. March 1 to 7 a.m. March 2, 1929, and the production from each lease on this date will constitute the new potential for the period March 1 to 7 a.m. March 15.

"The following affidavits will be necessary:

"1. Actual production by leases in Greater Seminole area from 7 a.m. February 14 to 7 a.m. March 1, 1929.

"2. Date new wells reached the sand since February 14, 1929, and days shut down before drilling in, and the daily production therefrom.

"3. Actual production by leases from 7 a.m. March 1 to 7 a.m. March 2, 1929.

"All drilling wells upon reaching the sand shall be required to shut down eight days, this delay to constitute the proration of said wells for the period March 1 to March 15, 1929. The usual delays, such as waiting for the setting of cement, etc., will not be allowed as shut-down time.

"The overproduction made necessary in obtaining potential figures on March 1 will have to be prorated during the subsequent dates so that the total production by leases for the period March 1-15 shall equal the allowed amount for that period.

"The new percentages for the period March 1-15 will be mailed to you on March 2, but in order to control the production on March 2 and 3 it will be necessary for you to use the present percentages of allowed production."

## OIL SECURITIES MARKET SLUGGISH PAST WEEK

(Continued from Page 145)

bonds; to further finance the operation of the new Grover process for refining lubricating oils and for additional working capital and other corporate purposes. The company now has issued 886,270 common shares, 446 old and 19,777 shares of new preferred. Old preferred is convertible, share for share, into new preferred; latter is convertible one share for five shares of common.

**Twenty Representative Stocks**

The Oil and Gas Journal weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Saturday, was as follows:

| | |
|---|---|
| January 26 | 57.44 |
| February 2 | 57.55 |
| February 9 | 55.28 |
| February 16 | 55.35 |
| February 23 | 54.92 |

## CALIFORNIA MARKETS WEAKENING FURTHER

LOS ANGELES, Calif., Feb. 26.—The past week saw a further weakening in the Pacific Coast gasoline market and new low prices were established at several points. The General Petroleum Corp established a tank wagon price of 9½ cents per gallon early in the week but most of the other major companies are holding at 12½ cents. The differential to resellers however, equalizes the two quotations in many instances as some refiners allow 2 and 3 cents off the tank wagon price.

The seriousness of the present highly competitive condition is quite evident when one considers that these tank wagon prices include the 3-cent state tax. Service station prices which also include the road tax varied between 11 and 15 cents per gallon all week although in several localities competition has driven the low range down to 8 cents per gallon.

The price of lubricating oil and other automobile accessories are now being cut by independent service station operators to stimulate sale of gasoline and this may lead to a further reduction in gasoline prices although existing quotations have been rather stable for the past few days around 11 cents per gallon.

## REGIONAL COMMITTEE HOLDS FIRST MEETING

(Continued from Page 46)

ing O. D. Donnell, Ohio Oil Co., Findlay, Ohio; Dana H. Kelsey, representing W. S. Fitzpatrick, Prairie Oil & Gas Co., Independence, Kans.; William N. Davis, representing H. V. Foster, Indian Territory Illuminating Oil Co., Bartlesville, Okla.; Wirt Franklin, Wirt Franklin Petroleum Corp., Ardmore, Okla.; J. C. Denton, representing Jacob Frantz, Mid-Continent Petroleum Corp., Tulsa; Roy B. Jones, Panhandle Refining Co., Wichita Falls, Tex.; John H. Markham, Jr., Tulsa; E. J. Marston, Texas Pacific Coal & Oil Co., Fort Worth, Tex.; D. A. Richardson, representing D. J. Moran, Marland Oil Co., Ponca City, Okla.; R. W. McIlvain, Pure Oil Co., Chicago, Ill.; J. F. O'Donohoe, Petroleum Producers Co., Wichita Falls, Tex.; E. R. Filley, representing R. Ogarrio, The Texas Company, New York; J. C. Adams, representing F. B. Parriott, Transcontinental Oil Co., Tulsa; W. G. Skelly (and C. C. Herndon), Skelly Oil Co., Tulsa; Thomas B. Slick, Oklahoma City, Okla.; B. N. Stephens, Magnolia Petroleum Co., Dallas, Tex.; and H. R. Straight, Empire Companies, Bartlesville, Okla.

## WALTER DUNHAM DIES AFTER BRIEF ILLNESS

Walter M. Dunham died in Dallas, Tex., Tuesday morning, February 26, after a brief illness and his death removes from the oil industry one of its best-known veterans, for Mr. Dunham was not only known in every producing division in the United States and Canada, but in South American fields.

Mr. Dunham had been in the oil business more than 60 years and for many years was considered an expert judge of oil territory. His most effective work was done in the days before the professional trained geologist came into use.

Walter M. Dunham was best known in recent years as a statistician. He was affectionately known as the "walking statistical bureau of the oil industry."

Walter Milne Dunham

Mr. Dunham was born in Chatham, Ontario, 75 years ago. He was 4 years old when he was taken to Oil City where he grew to manhood and in the neighborhood of which his oil experience began. He was a driller for 30 years, but in the course of that time was also engaged in other branches of oil industrial employment, which included his pioneer work as an appraiser of wildcat territory. His work in foreign fields took him to Brazil, Peru, Colombia and Venezuela, his last South American trip having been concluded about a year ago.

Personally, Mr. Dunham was a man of high principles, loyal in his friendships; an interesting man who had gone through an experience in the oil business enjoyed by few. He lacked acquisitiveness. He was often in a position to make much money but had the greatest disregard for it. He loved his work and the associations it gave him and made no effort to become a "rich oil man." His death removes a lovable character and one whose like may never be duplicated in the petroleum industry with its rapidly improving economic methods.

*Old Timer Says—*

*"Parmaco Multi-Cone Expanding*

**Packers**

are fine for shutting in gas wells where over-size hole or soft formation exists."

Get a Parmaco *and be safe.*

*Write for Catalog.*

**PARKERSBURG MACHINE CO.**

**PARKERSBURG, W. VA.**

*"The House of Courteous Service"*

PARKERSBURG MACHINE CO. PARMACO PARKERSBURG W. VA. U.S.A.

# COMMON OWNERSHIP IN OIL POOL SUGGESTED BY WILLIAM N. DAVIS

William N. Davis of Bartlesville, president of the Mid-Continent Oil & Gas Association, has written a letter, addressed to executives of some 30 odd important oil producing companies in the Mid-Continent Field, with reference to "the development and adoption of a program for pooling of acreage or the utilization of prospective areas, in order to create a common ownership of the common reservoir, thus eliminating the intensive competitive development which is the source of overproduction with its attendant waste, vast unnecessary development and operating costs, and, in turn, the cause of most of the industry's economic ills."

The letter follows:

**Letter to Executives**

"On December 19, last, at the annual meeting of the board of directors of the general Mid-Continent Oil & Gas Association, a resolution was adopted, urging, among other things, that all producers of oil adopt a general policy of refusing to buy spreads of undeveloped acreage about new drilling projects or to contribute to or participate in the opening of any new areas where the acreage had not been pooled or unitized so that the development of the block could be controlled; and a committee was appointed to report as to how this objective could best be obtained. The committee has, for some weeks, been prepared to report to the board, recommending that a committee of three be selected and charged with the duty of organizing this movement, but the board has had no subsequent meeting and may not have one for some time, and I am undertaking to do what I can, personally, to crystallize sentiment for this most constructive practice and to bring it into general use.

"Overproduction and nearly all of the economic troubles of the oil industry can be traced back to a fundamental source, which is the mad competition by the owners of separate acreage in a productive area for a maximum share of oil from a common reservoir. So long as such separate competitive ownership of a common reservoir exists there can be no permanent and entirely equitable and satisfactory program for its orderly development or curtailment of its production. Regulation through proration agreed to by the operators is always difficult to attain, more or less inequitable in its application, and is at best an emergency measure. It is, however, apparently, the only remedy after the development of a pool has got under way, and, under those circumstances, the operators should turn to it in an earnest effort to meet the emergency as effectively as possible.

**What Industry Needs**

"What the industry needs, however, is a method of preventing such emergencies. There is a permanent, equitable, and effective remedy—elimination of the competition within the pool by a merging of separate interests into a common ownership of the common reservoir. It lies within the power of the operators to do this voluntarily and without the aid of legislation. It is not a royal road—free of obstacles, and it cannot be immediately and fully accomplished in all potential areas, but it can be done in any given area regardless of others, and the enormous economies which would result make any objections which can be raised, altogether insignificant. The unification of an area permits not only control of its production, but also its scientific and orderly development, with the elimination of many dry holes, greater oil recovery from perhaps one-half or one-third the usual number of wells, and a corresponding reduction in equipment, storage, pipe lines, water supply and many other items of investment and development costs. These economies would amount to hundreds of millions of dollars a year if all the pools in the United States could be developed under such a program. This would take time, but if the industry in general would adopt this practice now and follow it, I venture to predict that in two years or in less time, the problem of overproduction would be permanently behind us.

"Nearly all of the important operators who have given the matter thought declare that they favor this policy and are following it where possible. But it is easier to follow the beaten path. Independent wildcatters and lease brokers will not make the necessary effort to utilize their areas until they find that the companies upon whom they depend to finance their promotions refuse to buy spreads or otherwise assist in creating uncontrollable situations. They offer their promotions to our land departments with a statement that pooling is impossible and that they have already sold certain acreage to certain companies, and our lease men—without investigating the truth of the statements, reluctant to miss what appears to be a good deal—also follow the easy way and make their contributions. If each of our land departments had instructions from their management to refuse to participate except where pooling arrangements had been made, the brokers and wildcatters would soon adopt the new program, and gradually this constructive practice would come into more and more frequent use. A few experiences with important pools would so demonstrate its advantages that its universal adoption would follow.

**Ten Companies Assent**

"Within the last few days, representatives of 10 companies which are among the principal contributors to new drilling projects in the Mid-Continent Field, have assured me that they thoroughly believe in this program and have been following it or will do so in the future. However, two of these companies have since called me up to say that they had that day refused to participate in several promotions of new drilling projects and asking what progress I was making in securing the adherence of a sufficient number to that policy to make it effective, as they could not continue indefinitely to follow it alone.

"I assured them that they are not following it alone, but the question is raised as to how this movement can be crystallized into effective action. Lease brokers will tell your land departments that this company or that company has bought a spread of acreage around a proposed well, and, so long as doubt exists, there will be a strong tendency to make exceptions here or there, and thus in a short time the whole movement would fail.

"I can see no legal or other vital objection to a written, signed agreement that for a fixed period—say one year, all the signatory companies would adhere to this policy and that exceptions, if any are found necessary, will be laid before an umpire or a committee for approval; but if this is not acceptable, I would be glad to have your suggestions for a plan which would remove the doubt as to the activities of others, and the movement thus made effective. I have talked regarding this matter to enough operators to be convinced that at least 20, who between them probably give 95 per cent of all the assistance to the drilling of wildcats in the Mid-Continent Field, would adhere to this policy if they were assured that the others would, and these companies have it within their power, by co-operative action, to bring this practice into almost universal use.

"As I have said, this is the one permanent, equitable and fully effective remedy for overproduction, and I hope you will appreciate its importance and assist me in its successful consummation."

**Phillips Petroleum Co.'s Example**

Mr. Davis enclosed a copy of a letter written to Paul J. McIntyre, superintendent, land department, Phillips Petroleum Co., as follows:

"The management is keenly interested and has been very active in co-operating with other major oil companies in finding remedies for the economic ills of the industry. It is particularly concerned in securing a balance between production and consumption of crude, as most of the industry's economic troubles have their source in overproduction of the raw material.

"In the final analysis, this overproduction has its source in the intense competition in each pool between operators owning separate tracts, and as this character of competition can be eliminated only through the creating of a common ownership of the common reservoir, the company has adopted the policy—along with a number of other major companies—of limiting its assistance and participation in new drilling projects to blocks or areas which have been pooled, unitized or otherwise put in such a position that their development can be controlled in the event production is found. We are active in an effort to secure the adherence of all of the important companies in the Mid-Continent Field to this program.

"This does not mean that we have stopped taking leases, drilling test wells or participating in promotions for the drilling of such wells. On the contrary, please make it clear to the promoters—individuals and brokers, of wildcat wells that the management stands ready to assist them as heretofore where the play is recommended by the land and geological departments, but only where suitable arrangements have been made to control the development of the area in the event of production.

**Area Suggested**

"A great many brokers are much exercised in the belief that the major companies are attempting to put them out of business. This is not the case, but, as we see it, the best and only permanent solution to overproduction and regulation of future pools lies in unit operation. This program will effect economies running into many millions of dollars, through elimination of dry holes and increased recovery from a greatly reduced number of producing wells, with a corresponding saving in all of the accompanying equipment. These economies would be so great as to justify any additional labor and effort which may be necessary to effect the desired pooling arrangements. The area pooled, if possible, should cover the entire indicated structure. The ideal minimum would be four sections, but the plan will have to be flexible in the beginning, and a pooling of a lesser area might be acceptable as being better than none at all.

"Your earnest co-operation along these lines will be of untold benefit to your company and to the industry of which you are a part. I can not impress upon you too strongly the importance that you men, yourselves, have in making a success of this program by educating the brokers and promoters of new drilling projects, while continuing to carry on their wildcatting, to look for help from the major companies on the basis of unit operation rather than on the old plan of selling spreads. No plan is perfect, and this one has its obstacles and difficulties, but they fade into insignificance when compared with the economies involved and the stabilization of the industry which would result.

"Inclosed herewith is copy of a letter sent by me, as president of the Mid-Continent Oil & Gas Association, to representatives of 31 principal companies operating in the Mid-Continent Field. It may give you a clearer picture of the program. You will note that 10 major companies are now adhering to the plan.

"Let us get in behind this and put it over 100 per cent."

## PRAIRIE PIPE LINE TO OKLAHOMA CITY

The Prairie Pipe Line Co. will enter the Oklahoma City Field with an 8-inch line which will be built from its Panora station near Shawnee, Okla.

This work calls for the construction of 32 miles of line. According to officials of the company, the line will be welded pipe, and contracts will be let for ditching, stringing, back filling and covering the ditch. The Prairie will make the welds and lower the pipe into the ditch.

Bids for this work will be received by the Prairie Pipe Line Co. and the work will be started as soon as the contracts are let.

# SPANG

The HIGHER STANDARD

## WELDLESS JARS

LARGE operating companies and successful contractors the world over have demonstrated beyond question that Spang (patented) Weldless Jars cost less per foot drilled.

Exhaustive tests and comparisons over a period of years have caused the adoption of Spang Weldless Jars as standard equipment for all tools.

Individually *drop forged* from a single billet of highest grade alloy steel . . . then scientifically heat treated and finished to accurate specifications by master workmen—no wonder Spang Weldless Jars are outstandingly the most economical jars you can buy.

*Over 300 leading Supply Stores carry Spang Weldless Jars in stock.*

**SPANG & COMPANY**
**Butler, Pa.**

# Of Interest to Sales Departments

## "Red Hat" Decision Highly Important In Market Circles

The decision of the Court of Appeals of the District of Columbia in upholding the Standard Oil Co. of Indiana in its suit against the Independent Oil Men of America involving the alleged infringement of the former's "Red Crown" trade-mark has caused wide comment in marketing circles. The case has been before the patent and the Court of Appeals for the past three years.

Th "Red Hat" trade-mark which was held to be an infringement, was adopted by the association which issued permits to its membership covering its use in the sale of gasoline. The trade-mark referred to the common domestic grade sold in many areas in competition with the Standard's "Red Crown" gasoline.

The following extract from the decision of the Court of Appeals gives the basis on which the Standard's claims were upheld:

"The applicant's mark consists of two concentric circles, in the space between which appear the words "Red Hat Gasoline." Within the smaller circle is a representation of a fanciful hat, similar in appearance to that used by the mythical Uncle Sam. The hat is red in color with a blue band on it with white stars.

"The opposer's mark consists also of two concentric circles and in the space between the outer and the inner circles are the words "Red Crown Gasoline." Within the inner circle is the representation of the crown of royalty, including the jewels incident to such a crown.

(Continued on Page 162)

### PROTESTS CODE OF ETHICS

Attorney General Sorensen of Nebraska has filed a protest with the Federal Trade Commission relating to the Code of Ethics to govern the marketing of refinery products in the petroleum industry. The code which is sponsored by the American Petroleum Institute is now before the Federal Trade Commission for final approval.

Mr. Sorensen charges that the code will work a hardship on the independent dealers placing them at the mercy of the large refiners. He also charges that farmers unions may not buy at discount in large amounts under the provisions of the code.

### OPPOSES INCREASED GAS TAX

CHICAGO, Feb. 16.—Governor Kohler, the new Wisconsin chief executive, while a believer in good roads also believes there is no necessity for an increase in the Wisconsin state tax on gasoline and that sufficient funds are available for a business administration of the roads. The Wisconsin oil men are also actively working against a gas tax increase, a bill for which is now before the legislature.

### ALBERTA GASOLINE TAX

CHATHAM, Ontario, Feb. 16. — The province of Alberta has increased its gasoline tax from 3 to 5 cents, with a refund of 4 cents on gasoline used for agricultural or industrial purposes. The revenue for the year is estimated at $1,800,000.

### PENNSYLVANIA TAX

Sponsored by Governor Fisher, a bill has been introduced in the Pennsylvania legislature increasing the state tax from 3 to 4 cents. If the bill becomes a law the additional fund will be used in road construction.

## CRANKCASE DILUTION UNIMPORTANT FACTOR IN GASOLINE PERFORMANCE

By J. M. Evans*
Supervisor of Research, Associated Oil Co.

A great deal has been written and much money spent in advertising crankcase dilution which is present to some extent in every internal combustion motor. It seems to be generally conceded that too high a percentage of crankcase dilution is a serious matter, but it is difficult to determine what the border line is between safety and danger.

Many automobile manufacturers now definitely recommend in their instruction books the use of kerosene in prediluting new oil before it goes into the crankcase. One large oil company in the East markets, as its standard line of motor lubricants, prediluted oils with from 10 per cent to 12 per cent of kerosene-like material.

This indicates that investigators consider crankcase dilution within reasonable limits not to be injurious to the motor. The fractions of gasoline which dilute the oil serve merely to reduce the viscosity of the crankcase oil. Unless, however, the percentage of crankcase dilution becomes excessive, the viscosity will never be lowered to a point at which the bearings are not receiving sufficient lubrication.

A heavy grade lubricating oil with 8 to 10 per cent dilution will blend to the same characteristics as a medium lubricating oil which is free from dilution. The question therefore resolves itself only into one of using the grade of oil, which when modified by normal crankcase dilution will give proper lubrication to the motor.

There are many factors which affect the amount of crankcase dilution found in any particular automobile. The quality of gasoline is one of these, but the atmospheric temperatures encountered, the kind of driving, the condition of the engine and the load are just as important.

The effect of the gasoline used is shown in some recent experiments which we have made on a car covering from 50 to 75 miles daily. Runs of 500 miles or more were made using different commercial gasolines. We found a gradual increase in dilution starting from zero when the new lubricating oil was put in the crankcase, and reaching a definite equilibrium point after 500 or 600 miles of driving.

#### Maximum Dilution

The maximum dilution found in this particular car was never greater than 10 per cent and the variation in percentage of dilution was never greater than 2 per cent, regardless of whether normal gasoline or so-called "dry" or "high test" gasoline was used. In other words, normal, well refined gasolines to be found at service stations will show less variation in crankcase dilution than is caused by changes in weather or methods of operating the car.

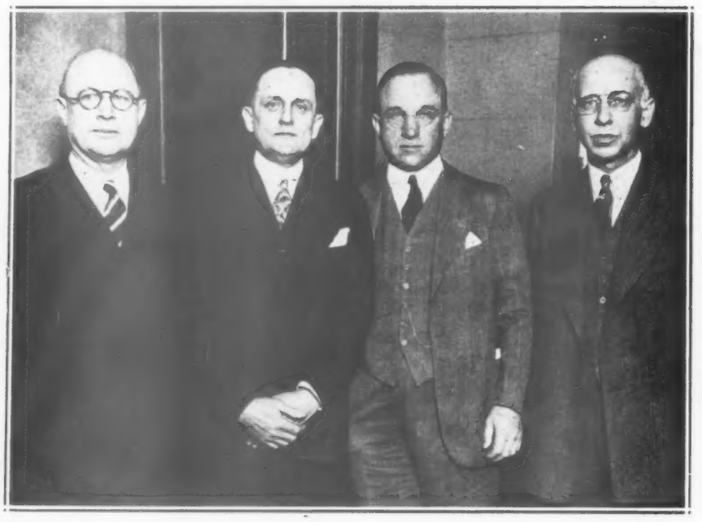
Even operating on fuels heavier than any marketable gasoline, we have been unable to find crankcase dilutions of 30, 40 or 50 per cent, as sometimes advertised, because of the difference in final crankcase dilution between the varieties of gasoline ordinarily marketed is so small. Associated has maintained the policy of manufacturing a gasoline with such a proportion of the heavier fractions as will insure increased mileage.

As just pointed out, Associated gasoline will never cause a dilution more than from 1 to 2 per cent higher than the so-called 400 endpoint "dry" gasolines and yet as these same tests prove, it will give greater mileage. Gasoline manufactured by the Associated Oil Co.

(Continued on Page 162)

*The Record.

## GENERAL COMMITTEE ON CODE OF ETHICS



Members of the General Committee of the American Petroleum Institute on Code of Ethics to govern practices in sale of refinery products. (Left to right) **Roy B. Jones**, president of the Panhandle Producing & Refining Co., chairman; W. R. Boyd, executive vice president of the American Petroleum Institute; R. C. Holmes, president of The Texas Company, and H. M. Dawes, president of the Pure Oil Co. Other members of the committee are P. M. Miskell, manager of the refining and marketing division of the Empire Oil & Refining Co., E. T. Wilson, chairman of the board of the Continental Oil Co., and K. R. Kingsbury, president of the Standard Oil Co. of California.

## BILL PROPOSES CHANGE IN OKLAHOMA TAX LAW

A drastic change in the present method of collecting the state gasoline tax in Oklahoma is proposed in a bill which has been introduced in state legislature. The bill has strong sponsorship in both house and senate.

The bill provides that the gasoline tax remain at 3 cents a gallon, but that 10 inspectors do the work now done by a small army of inspectors working out of the Corporation Commission offices.

Taxes would be collected by the state auditor. Gasoline distributors would be required to file reports with the auditor and to make a bond of not less than $1,000 or more than $10,000 to guarantee the State the payment of the gasoline taxes due monthly.

Distributors of the gasoline or motor fuel would be required to obtain licenses to do business. These distributors would include those persons and firms that bring the fuel into the State or manufacture or provide it.

Railroad companies would be required to file reports with the state auditor regarding shipments of all kinds of fuel delivered to any consignee within Oklahoma. Manufacturers would be required to make reports also on sales.

The gasoline inspectors would be listed as one for each congressional district and two for the State at large. Fees would be provided to care for the expenses of the inspection. The gasoline inspectors would draw salaries of $3,600 annually and expenses.

## SUIT BASED ON LUB OIL TRADE-MARKS DISMISSED

Clarkson & Ford, of New York City, and the Knight Oil Corp., also of New York, have had dismissed by W. A. Kinnan, first assistant commissioner of the Patent Office, cross motions to cancel each other's trade-marks for lubricating oils. Clarkson & Ford in 1912 registered as its trade-mark "Silent Knight." Six years later Elmar S. Hobson for the Knight Oil Corp., registered a picture of a knight carrying a banner bearing the word "Knight."

At the hearings before the patent office commissioner, it was shown that the oil originally trade-marked by Clarkson & Ford was a heavy type, suited particularly for motors of the Knight type. Recent development work in this type of motor, however, has eliminated the necessity for using a special oil.

Recently Elmar S. Hobson incorporated as the Knight Oil Corp., marketing his produce as "Knight Oil," the label carrying the trade-mark in an inconspicuous place. The assistant commissioner ruled that neither company had a broad right to the term "Knight" and that there was no confusion in the oil trade for many years as long as the trade-marks alone were used in marketing the products.

### ISSUE INJUNCTION

Justice Jennings Bailey, sitting in the Supreme Court of the District of Columbia, has issued an injunction restraining the Penn Oil Co. from selling other oils as "Mobiloil."

Vacuum Oil Co., makers of "Mobiloil," brought action, contending that its investigations had proved that purchasers asking for "Mobiloil" at filling stations operated by the Penn Oil Co. were given instead a different kind of oil.

The Penn Oil Co. denied the Vacuum charge, as did its station attendants. Justice Bailey, while conceding that the testimony was conflicting and confusing, declared that Vacuum had established its case and entered a permanent injunction.

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OVER 11,000 producing wells feed the pipe lines leading to Pure Oil's large, modern refineries. Some of this crude is rich in gasoline content; some is valuable for making high grade motor oil; while some is best suited as a base for industrial oils or greases. But, because Pure Oil controls this vast production, it has a sure supply from which its experts select the cream of the crudes for refining each product.

Every step in the producing, refining, and marketing of Pure Oil products is efficiently handled by Pure's own organization. That is why Pure Oil products are uniformly good . . . always delivered on the dot!

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Beaumont, Tex.

# Determination of Detonation Ratings

## University Investigates All Phases of Knock Problem Which Have to Do With Performance of Gasolines and Other Fuels in Motors

By George Granger Brown*
University of Michigan

Motor fuel is the major product of the petroleum industry, and at the present time is properly receiving most attention from those students and investigators in petroleum engineering at the University of Michigan.

The most important properties of motor fuel are its knock ratings and its volatility. It is now generally conceded that knock rating tests can be conducted in a satisfactory manner only in some form of engine test. Although it is not so generally realized, conclusions regarding the effective volatility of motor fuel may also be in serious error unless based upon actual motor tests. For this reason, all work on motor fuel characteristics is carefully checked against actual motor tests.

It is not intended to imply in any way that special laboratory tests are of no value. For many purposes, such as determining the mechanism of engine detonation, special laboratory equipment is of great aid in interpreting the results obtained on the engine. Similarly, special laboratory tests determining the equilibrium volatility of motor fuels are of practical value in estimating the efficiency of engine manifolds under different conditions. The special advantages in the use of bomb for studying combustion, and air distillation equipment for studying volatility in the laboratory, are due to the fact that all variables can be more accurately controlled in such equipment than is possible during actual engine tests.

### Detonation

About three years ago the Department of Engineering Research purchased a

**TWO ARTICLES**

The University of Michigan has taken a leading part in motor fuel research. The engineering department of the university in both its graduate and undergraduate work under the direction of the faculty during the past three years has accomplished much that has been of practical value to the refiner and distributor of gasoline.

In the accompanying article Doctor Brown gives an up-to-date discussion of research work on detonation and the determination of knock ratings. In the March 7 issue motor fuel volatility will be discussed.

either on commercial tests or on special research according to a program under the guidance of a special committee of three.

Practically no information has been published in this country concerning the relative effect of benzine, toluene, alcohol, lead tetraethyl, and other knock suppressors in increasing the compression ratio at which a fuel may be used without knocking. Figure 3 is a plot of the results obtained on this motor, and includes a comparison with the results obtained by King and Sims[1] for lead tetraethyl. By means of a chart such as this, it is possible to correlate benzol value, cc. of lead tetraethyl, and toluene value

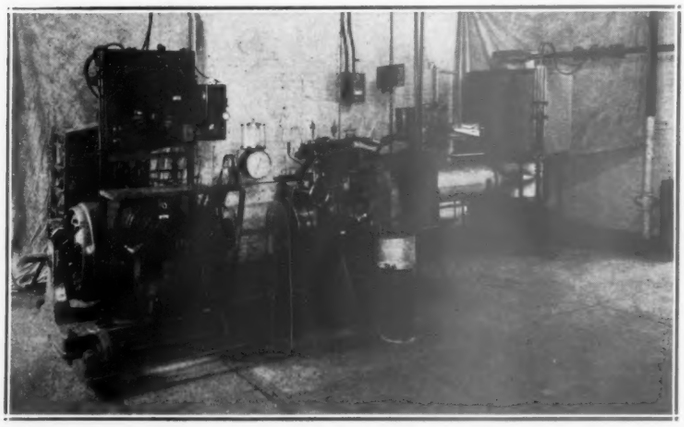

*Figure 1—N.A.C.A. universal test engine in automotive laboratory.*

N.A.C.A. Universal test engine, which is direct connected to an electric absorption dynamometer and equipped with the air metering arrangement as shown in Figure 1. This motor is a single cylindered motor of a 5-inch bore with a 7-inch stroke. Without going into the details of construction, this motor is so equipped that its compression ratio can be varied from about 3½, to about 15, to one with all other conditions constant and with the motor operating under full load. In addition to this the two cam shafts carry two special split cams so that the time of opening the lift, and the time of closing can be independently varied for the intake and for the exhaust valves without disturbing any other condition of operation of the motor.

The Department of Engineering Research employs one experienced automotive engineer and one assistant who are working full time with this motor,

*Professor of Chemical Engineering.

with the per cent increase in highest useful compression ratio.

### Maximum Power

Another problem is that of determining the maximum power obtainable from different fuels at different compression ratios, particularly as compared with a fuel which does not detonate or knock at any compression ratio used. Figure 4 gives the A.S.T.M. distillation curves for five fuels of highly different knock rating. In this figure the loss is added at the front end of the curve. Figure 5 gives the indicated mean effective pressure, (corresponding to the power output), as a function of the compression ratio, when all other conditions are maintained as indicated.

In Figure 5 the upper curve for each fuel represents the results obtained with the carburetor so adjusted as to supply that air fuel ratio giving the maximum

[1]Report and Memoirs, 1.063, H. M. Stationery Office, London.

power output under nondetonating conditions. The lower curve for each fuel gives the results obtained when using that mixture ratio giving the worst detonation. In all these tests the spark was

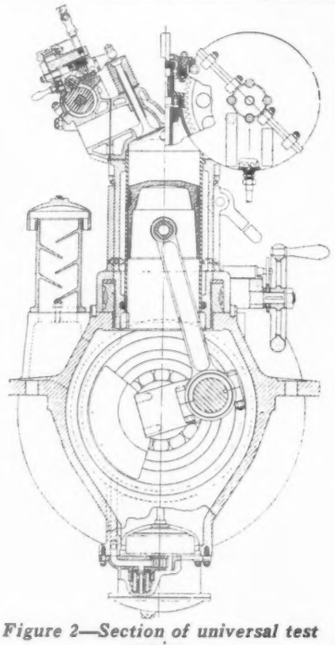

*Figure 2—Section of universal test engine.*

adjusted for the maximum power at each setting.

A study of these curves will indicate that different results as to the knock ratings of these fuels will be obtained depending upon the intensity of knock under which the fuels are tested. For example, if the fuels are rated according to the compression ratio at which incipient detonation (just audible detonation) occurs, the fuels would be listed in the following manner in increasing knock ratings: 32, 53, 62, 75, 2,182. But if the knock ratings were determined as the compression ratio at which maximum power was obtained, or if the fuels were compared at a high knock intensity, they would probably be listed either in the order 32, 53, 2,182, 62, 75, if tested with the carburetor adjusted for maximum power, or in the order 32, 53, 62, 2,182, 75, if tested with the carburetor adjusted for the worst knocking in each case. These differences are not evident unless the fuels tested are of widely different characteristics such as is the case in these tests.

### Compression and Power

It has been found that the compression ratio at which incipient detonation occurs is almost identical with the compression ratio at which the power output or indicated mean effective pressure curve begins to fall away from the I.M.E.P. curve of a nondetonating fuel. These points can be observed as the first break in the I.M.E.P. curve, as occurring at a compression ratio of about 6.2 for

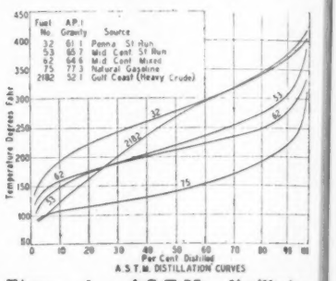


*Figure 4 — A.S.T.M. distillation curves of fuels used in knock rating tests.*

Fuel 2,182, and 5.3 for Fuel 75, or 6.9 for Fuel 75 containing 5 cc. of lead tetraethyl per gallon. It has been found that when these fuels are tested with a fixed spark (30 degrees advance) that the relative knock ratings of these fuels are practically identical whether determined as the compression ratio at which incipient detonation occurs, or as the compression ratio at which maximum power is obtained.

For this reason, all of our routine tests on this variable compression motor

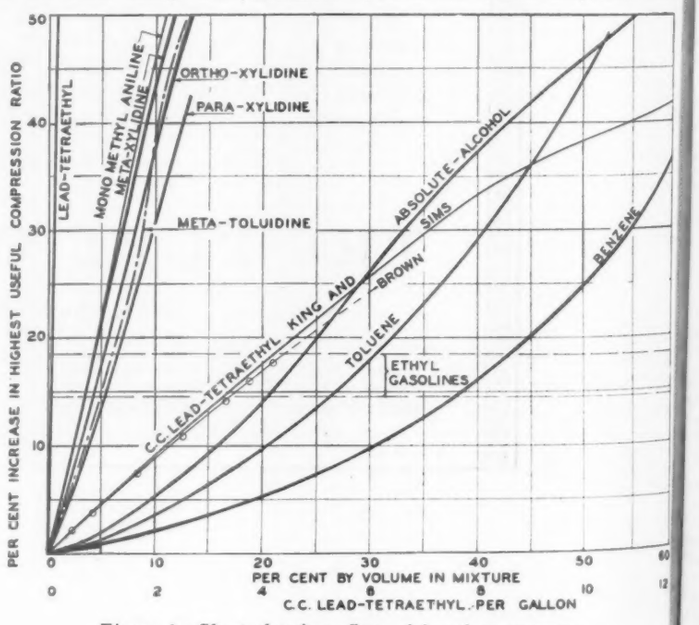


*Figure 3—Chart showing effect of knock suppressors.*

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ALTHOUGH they are installed sometimes in exposed positions (like the one shown above) and subjected to extreme temperature changes, dirt, water, mud, etc., Barco plug valves always work. Their simple rugged construction insures long, care-free life.

Barco valves are lubricated by a simple arrangement which requires only a turn of the lubricating screw occasionally. They eliminate the frequent replacing of packing, renewing or regrinding seats, and other maintenance which ordinary valves require.

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**BARCO**
**Valves and Joints**

O&GJ 2-28-Gray


are run with a fixed spark, the carburetor adjusted for worst knocking of the fuel under test, and the fuels rated in order, according to the compression ratio at which incipient detonation occurs, and according to the compression ratio at which the maximum power output is obtained. In many ways the latter is found to be the more satisfactory, as it tends to eliminate the human variable always present in determining incipient detonation, and yet is a method of testing independent of any auxiliary knock indicators, which frequently introduce more variables than they eliminate.

The Department of Chemical Engineering possesses a fixed compression motor of the marine type, direct connected to a

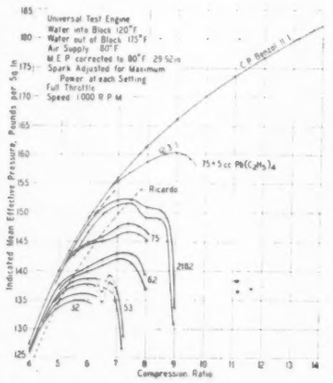



*Figure 5—Indicated mean effective pressure obtained in the universal test engine at different compression ratios when using the fuels described in Figure 4.*

15 horsepower electric absorption dynamometer. This motor is also used for making knock rating tests according to the method of spark advance to maximum power, and spark advance to incipient detonation. This equipment is typical of many installations in various refineries. Although not as satisfactory nor as flexible as the N.A.C.A. Universal test engine, this small Lockwood marine motor modified by the insertion of a steel sleeve and a special bronze head

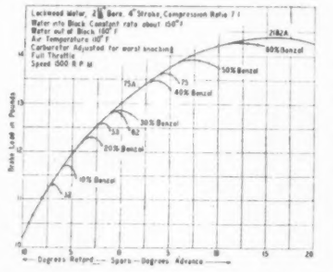



*Figure 6—Brake load or power output obtained at different spark settings when testing the fuels of Figure 4 in the small motor of fixed compression ratio.*

giving a compression ratio of 7 to 1, gives reasonably satisfactory results which can be correlated with the results obtained on the variable compression motor.

### Brake Load

Figure 6 shows the brake load as a function of spark advance obtained in testing the five fuels shown in Figure 4. Actually these tests do not all fall on the smooth curve as shown in Figure 6, but are displayed slightly in a vertical direction depending upon the engine friction during the test. This engine friction depends largely upon the condition and temperature of the lubricating oil. The curves are all superimposed in Figure 6 for the sake of simplicity. For this reason the brake load indicated in Figure 6 may be taken as corresponding to the indicated mean effective pressure in Figure 5.

These tests on the small fixed compressor motor are conducted with all conditions constant as indicated in Figure 6, but with the spark adjusted to determine the point at which incipient detonation occurs, and the point at which the maximum power output is obtained. It will be observed that the curve in Figure 6 passes through a maximum at about 15 degrees advance. This means that the power output of the motor decreases with increasing spark advance about 15 degrees even if the fuel under test is not knocking. For this reason, it is impossible to test fuels of higher knock rating than about 50 benzol value on the basis of spark advance to maximum power output, unless the compression ratio of the motor is raised above that used in the tests reported in Figure 6 (7 to 1).

However, the method of making tests of advancing the spark to incipient detonation may still be used as indicated by the Figure 2,182A at about 17.5 degrees spark advance which indicates that spark position at which Fuel 2,182 develops incipient detonation. Spark advance to maximum power cannot be used

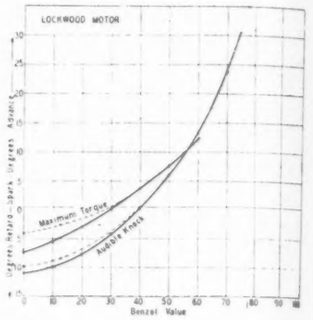



*Figure 7—Spark setting as a function of benzol value (per cent of volume of benzol in the Standard Fuel 32 to give the same knocking tendency) as obtained on the fixed compression motor.*

in testing this fuel under these conditions as the power output of the motor has already begun to decrease.

### Power Output Curve

The power output curve (Figure 6) is fairly steep up to about 7 or 8 degrees spark advance. Within this range the power output falls off rapidly as the spark is advanced beyond that at which knocking becomes intense. Although spark advance to maximum power is a highly desirable method within this range since it tends to eliminate the personal error, it is not satisfactory on this particular motor beyond about 7 degrees advance.

Audible knocking always occurs before the maximum power is reached as

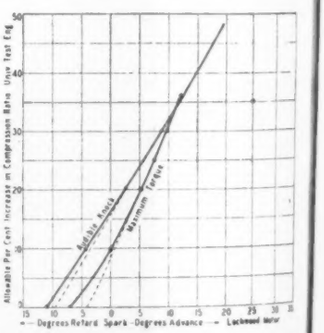
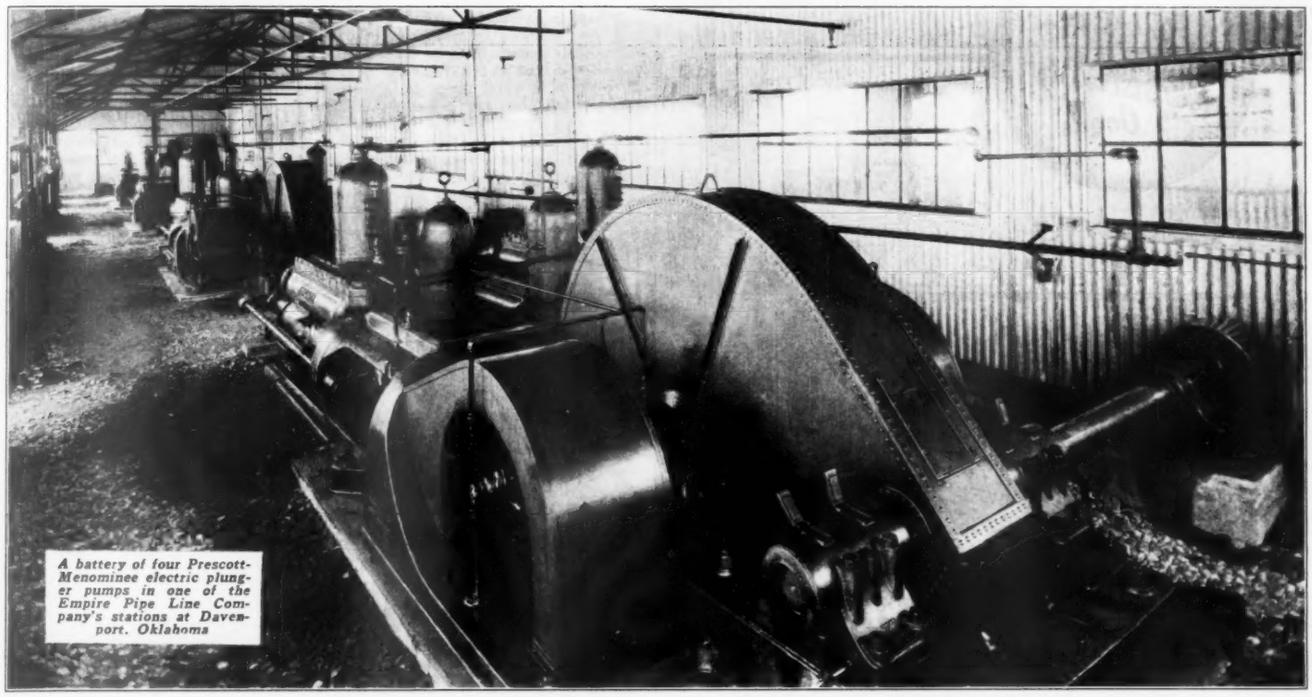

Allowable Per Cent Increase in Compression Ratio Over Test Eng.
Audible Knock
Maximum Torque
Degrees Retard Spark Degrees Advance — Lockwood Motor

*Figure 8—Spark setting on fixed compression motor related to highest useful compression ratio as determined on the universal test engine.*

indicated by the Figure 75A indicating the point of incipient detonation for Fuel 75, except in those cases where the spark is advanced beyond that for the maximum power output of the motor, as mentioned above for the case of Fuel 2,182.

The results obtained from a series of tests, such as indicated in Figure 6, are



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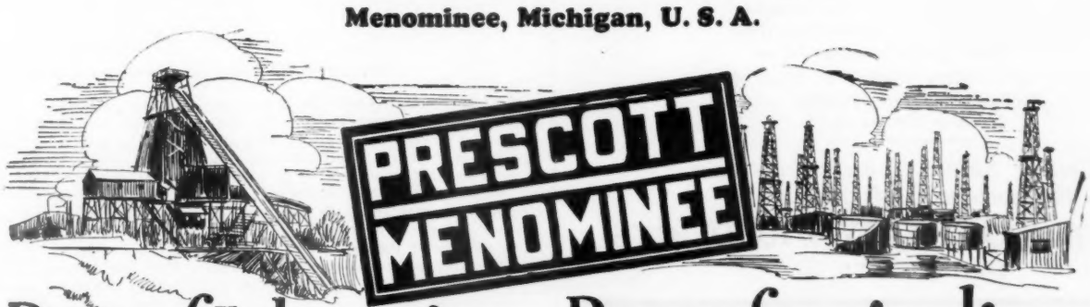


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plotted in terms of benzol value as indicated in Figure 7.

**Carbon Removal**

The dashed lines indicate the results obtained immediately after the carbon has been removed from the motor. Carbon rapidly accumulates so that the fuels knock with the spark retarded as indicated by the solid lines in Figure 7. These conditions are those usually encountered in making knock tests on this motor. In Figure 7, it is seen that the maximum power curve intersects the audible knock or incipient detonation curve at about 10 degrees spark advance indicating that the maximum power reading cannot be used as a satisfactory criterion of knock rating at 10 degrees advance. This is interesting as the power output of the motor does not fall off until the spark has been advanced to about 15 degrees before top dead center.

**Interpretation of Data**

The results obtained on the small fixed compression motor can be satisfactorily interpreted in terms of H.U.C. (highest useful compression) or better as per cent increase in compression ratio on the Universal test engine, by means of the data reported in Figure 3. This has been done as indicated in Figure 8. It is interesting to note that the degrees of spark advance or retard at which incipient detonation occurs is practically a straight line function of highest useful compression ratio, or per cent increase in useful compression ratio as determined on the Universal test engine.

In addition to this engine work on detonation, the fundamental characteristics of gaseous explosions has been under investigation by the Department of Chemical Engineering for the past seven years. At the present time this work is being conducted in two different pieces of equipment. One of these is a small cylindrical bomb equipped with an optical pressure recorder, in which various mixtures of fuel, oxygen, nitrogen or other gases may be exploded under different conditions of temperature and pressure. Results obtained in this equipment have been published from time to time in Industrial and Engineering Chemistry[2]. At the present time this equipment is being used to determine the effect of lead-tetraethyl on the rate of rise of pressure accompanying the explosions of pure hydrocarbons in oxygen-nitrogen mixtures the results of which investigation will be published shortly.

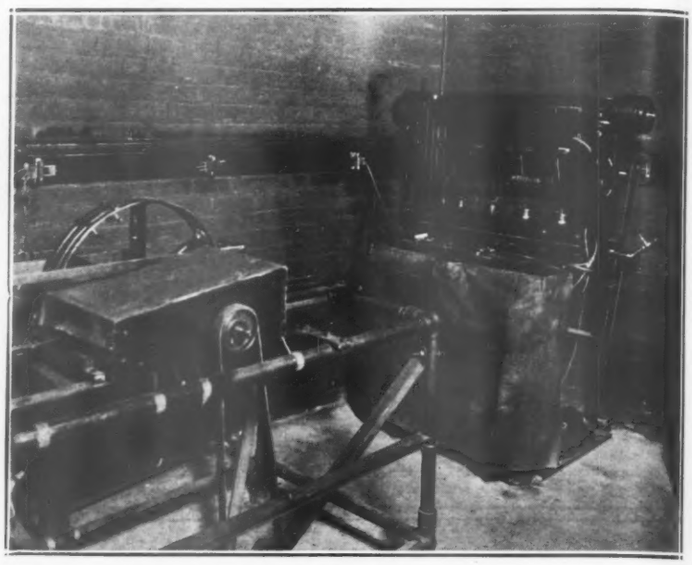

*Figure 9—Special explosion bomb for determining flame and pressure propagation in gaseous explosions.*

Within the past two years a special explosion bomb or cylinder has been constructed in which it is possible to photograph the flame as it travels through a tube about 3 inches in diameter and 3 feet in length and at the same time record the pressure existing in the tube at four different places throughout its length and at each end of the vessel (Figure 9). A diagram of this bomb is shown in Figure 9-A. Preliminary results obtained with this equipment[3] clearly indicated that as the flame is propagated through an explosive mixture, a pressure wave is set up in the burning mixture behind the flame front and travels at a greater velocity than the flame front. This discovery was also made at approximately the same time by Doctor Payman

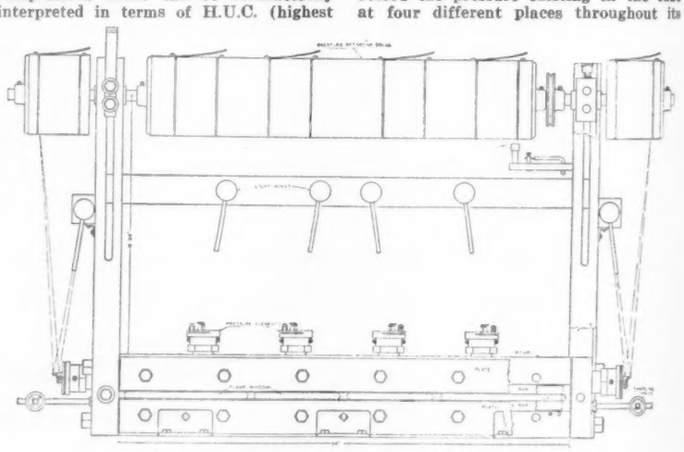

*Figure 9-A—Bomb and pressure recorder.*

[2]Ind. and Eng. Chem., 17: 397, April, 1925.
Ind. and Eng. Chem., 17: 1229, 1925.
Ind. and Eng. Chem., 19: 280, Feb., 1927.
Ind. and Eng. Chem., 19: 363, March, 1927.
Ind. and Eng. Chem., 19: 366, March, 1927.
[3]Ind. and Eng. Chem., 20: 1052, Oct., 1928.

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412 West First Street
Tulsa, Okla.

*Northern Branch:*
J. W. Monaghan
P & R Building,
Casper, Wyoming


in England.' These pressure waves may have a marked effect on the combustion of the explosive mixture. Two men are now working full time with this equipment in an investigation of flame and pressure propagation, which cannot be adequately studied except in some such apparatus so equipped that the pressure propagation can be measured as well as the flame propagation.

'Proceedings of the Royal Society, 1928.

## CRANKCASE DILUTION UNIMPORTANT FACTOR

(Continued from Page 154)

showed a maximum of 8 to 9 per cent dilution in all these tests and in this particular car gave an overall average of 12.9 miles per gallon, whereas the low endpoint gasoline averaged only 12.1 miles per gallon.

As a further check on these results we obtained crankcase drainings from a large number of passenger cars on which we could obtain the history of the gasoline and oil used. In the cars using the gasoline which we manufacture, the average dilution was 8.6 per cent. These cars were of many different makes, operated under all sorts of driving conditions which had been in no way modified or controlled by us. Crankcase drainings from another series of average cars using 400 endpoint gasoline, which is frequently termed "dry" gas, gave an average dilution of 7.7 per cent.

The effect of this difference on the oil is negligible and could not be detected by the average motorist using any means at his disposal. At operating temperatures in the motor these minor variations in crankcase dilution, as judged by the resultant oil viscosities, are still further reduced and practically disappear. The difference in mileage obtainable, however, always remains apparent.

### Equilibrium Point

That dilution does reach a final equilibrium point was shown by some tests made on a particular car in which we first placed an oil with 12 per cent of dilution already added. A highway run at 40 m.p.h. was made with samples taken every 50 miles which showed a continual decrease in the amount of dilution, demonstrating that the dilution already added was distilling through the breather pipe faster than further dilution came past the pistons.

We then took the same car and starting with an oil of 3 per cent dilution, found that this curve rose in the first 20 miles to 4 per cent dilution and thereafter remained constant to less than one-half of 1 per cent. Other tests made on a long trip showed that during a drive through the valley the dilution constantly decreased. Upon arriving at Bakersfield, for example, the dilution had decreased to less than 2 per cent.

During an overnight stop the temperature of the car dropped so that after the town driving of the following morning and the use of the choke in starting, the dilution rose to over 4½ per cent, although only a few miles had been covered. In driving to Merced the dilution again dropped until it was below 1 per cent.

These data very clearly demonstrate that the normal car will have a dilution of 10 per cent or less and that this may be expected with any well refined gasoline when no unusual atmospheric or motor conditions are present. With a gasoline refined by the methods and to the degree employed by Associated, the motorist need not concern himself with crankcase dilution, but should weigh those qualities which make a real and observable difference in motor performance.

## "RED HAT" DECISION HIGHLY IMPORTANT

(Continued from Page 154)

The jewels are indicated by lighter colors and the main body of the crown is red. The common features of the two marks reside in the concentric circles in which the printing occurs and in which the 'red' and 'gasoline' are common to both, the only distinction being the words 'hat' and 'crown.' The principal distinction between the two marks is in the design placed within the inner circles. One shows a hat and the other a crown.

"The opposition is based upon the likelihood of the two marks creating confusion in trade. There is no direct evidence of confusion, but this is not determinative of the issue of confusion under our decisions. The court will view the marks with reference to the goods to which they are applied, and from its own observation arrive at a conclusion as to the likelihood of confusion.

### Deceptive Similarity Found

"Where, as in this instance, the goods on which the respective marks are used is the same, and though confusion between the representation of the hat and the representation of the crown might not be assumed. In the case of the experienced dealer or purchaser, we are of opinion that, considering the extensive use made of gasoline in modern trade and commerce, and the vast number of purchasers, consisting of all classes of individuals, the marks are deceptively similar, and the examiner was right in so holding.

"This is another example of the many cases we have had before us where the likelihood of confusion could have been readily avoided had applicant selected a mark not closely similar to its competitor. As said by Justice Robb, in Phoenix Paint & Varnish Co. v. John T. Lewis & Brothers Co., 32 App. D. C. 285, 'The purpose of the Act being to prevent and not to promote fraud and mistake, we would not feel inclined, even in a doubtful case, to grant registration to a claimant where it appears, as here, that when he adopted the mark he knew of its prior adoption and use by another firm in connection with goods of the same general character and properties. The opportunity for selection being as limitless as the human imagination, we have reason to question the motive prompting the adoption by one dealer of a mark previously applied by another dealer to like goods.'

"The rule is the same where the mark, applied to the same goods, is confusingly similar. When one is attempting to imitate the mark of another, he would not commit the blunder of absolutely copying the mark. There are usually points of similarity and dissimilarity employed, in order that the difference may be interposed as an argument that the marks are not deceptively similar; but the issue for the court to determine is whether or not when an incautious purchaser is confronted by only one of the marks, the similarity will not be such as to cause deception.

"We will not stop to indulge in any discussion of the point that color alone is not capable of appropriation as a trade mark. While 'red' is the predominating color in connection with these marks, its use in connection with closely associated features of the marks tends strongly to induce confusion.

"In determining, however, whether or not the marks are so similar as to be likely to lead to confusion in trade, all the features must be taken into consideration, and though one of them may be incapable of appropriation as a trade-mark, its use in connection with other features is not for that reason forbidden in establishing a valid mark. The marks here, however, consist of features which taken together force the conclusion that they are deceptively similar."

## GEOPHYSICS

All those interested in the various methods employed when prospecting for petroleum will welcome the "Elements of Geophysics," by Dr. Richard Ambronn, as translated from the German by Dr. M. C. Cobb.

The various geophysical methods included are described in language readily understood, and the book contains numerous illustrations. The mathematical calculations are well outlined. There is an exceptional bibliography of 63 pages, and the book is well indexed.

The publishers are the McGraw-Hill Book Co., Inc., of New York City.

# New!

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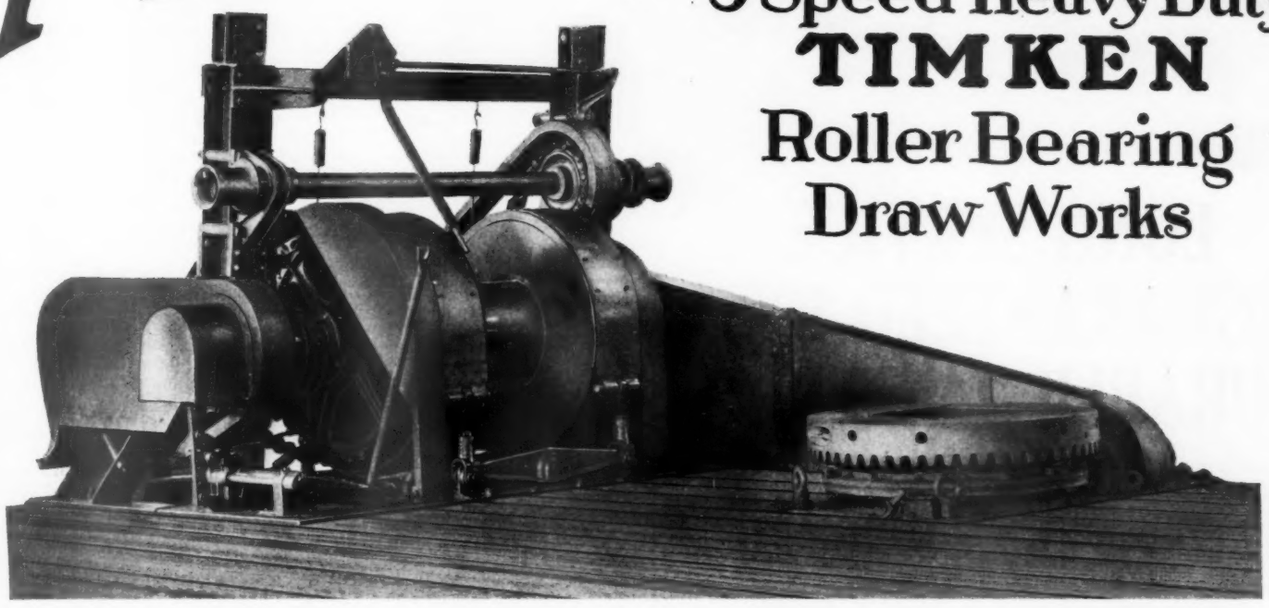

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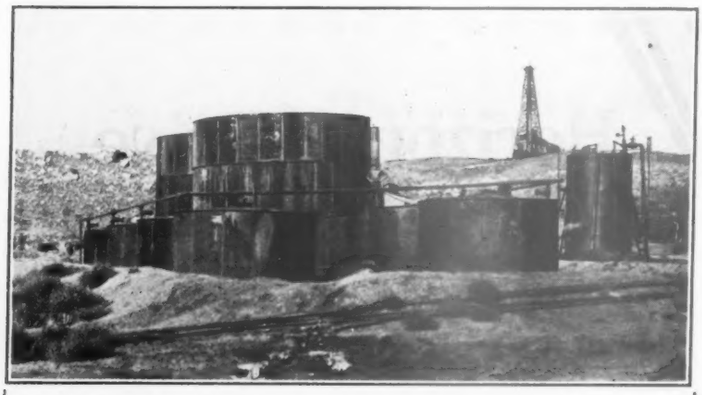

# LONG SERVICE GUARANTEED BY DURABLE MATERIAL

Maloney Bolted Steel Tanks are manufactured of rust-resistant Keystone Copper Steel. The exceptional durability of their material guarantees remarkably long service for these tanks.

Vapor-tightness is obtained in MALONEYS by our patented "crimp"—which promotes close fit at seams and joints—and by the use of our specially developed rubber gasketing and our Gaso cement. Seams are reinforced with rigid steel channels. Our bolts have a tensile strength of 90,000 pounds. Cleaning out plates are large and set flush with bottoms. Maloney special pearl gray paint is used. Standard equipment includes the best and latest types of valves and thief hatches.

Photograph reproduced above shows 8,000 barrels of MALONEY storage and one 200-Bbl., Special Maloney Flow Tank on Smith No. 4, Japhet Production Co., Borger, Texas, erected July, 1926.

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**MALONEY TANK MFG. COMPANY**
**Tulsa, Okla., U. S. A.**

*Distributors at All Principal Petroleum Points*

**Sizes: 12 to 10,000 Barrels**

**Packed in Steel-Bound Crates for Export**

*Howell Aluminum "4-in-1" Vacuum Pressure Valve and Thief-Hatch—The BEST and LATEST Deck Equipment—POSITIVE Safety.*

MADE OF KEYSTONE COPPER STEEL

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MADE OF KEYSTONE COPPER STEEL

MALONEY

'ALONE'

# NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

## TEXAS PANHANDLE

### Carson County

Gulf Production Co.'s No. 1 E. Cooper, 330 feet south and west of the NE cor. of the SW of Section 5, Block 9, I.&G.N. Survey.

### Gray County

Gardner Brothers and Collins' No. 2 G. H. Saunders, midway east and west and 350 feet south of the north line of west 68 acres of the E half of the J. G. Eustis Survey No. 1.

### Hutchinson County

The Texas Company's No. 2 J. L. Moore, 990 feet south and 330 feet east of the NW cor. of the SW of Section 125, Block 4, I.&G.N. Survey.

## NORTH CENTRAL AND WEST TEXAS

### Archer County

Gulf Production Co.'s No. 2 E. Alexander and others, 550 feet north and 150 feet east of the southwest corner of the Gulf Production Co.'s 120-acre lease out of Section 22, G. P. Meade Subdivision of L. M. Pasture Survey. C. E. McCutchen, trustee's No. 10 J. J. Perkins and others, 450 feet north and east of the SW cor. of the SE of Section 15, Denton County School Land, League 3, A-117. Rathke Oil Co.'s No. 2 G. T. Netherton, 150 feet south and east of the NW cor. of the SE of the NE of Section 1, S.P.R.R. Survey, A-411. Same company's No. 5 L. F. Wilson-A, 200 feet north and 60 feet east of the southwest corner of Lot 533, Geraldine Subdivision. Humble Oil & Refining Co.'s No. 2 George B. Hamilton-A, 150 feet north and 103 feet west of the northeast corner of the B.B.B.&C. Survey No. 3, A-51, and located in the B.B.B.&C. Survey No. 6, A-1,266. Madden & Hunt's No. 15 J. T. Richardson, 450 feet north and east of the southwest corner of their 125-acre lease out of Section 1, South Anderson Ranch Subdivision. Madden & Hunt's No. 16 J. T. Richardson, 150 feet north and 750 feet east of the southwest corner of their 125-acre lease out of Section 1, South Anderson Ranch Subdivision. Magnolia Petroleum Co.'s No. 1 A. H. J. Kunkel, 150 feet south of the middle of the north line of the south 60 acres of the A. H. J. Kunkel 203-acre tract out of the George W. Stell Survey, A-381. McLaughlin Brothers' No. 1 J. R. Parkey, 150 feet south and west of the NE cor. of the NW of Section 21, J. R. Parkey Subdivision, Dallas County School Land, A-113. Pandem Oil Corp.'s No. 1 Mrs. L. Weidmeyer, 450 feet north and west of the southeast corner of the Mrs. L. Weidmeyer 147.3-acre tract out of Section 132, Club Ranch Subdivision. Petroleum Producers Co. and others' No. 1 B. R. Jeske, 150 feet north and east of the southwest corner of the west 12.9 acres of the B. R. Jeske 150-acre tract and located in the B.B.B. &C. Survey No. 6, A-826. United Producers Co.'s No. 1 J. Kovar, 150 feet north and east of the southwest corner of the west 50 acres of the S half of Section 53, G. P. Meade Subdivision, L. M. Pasture Survey.

### Borden County

Gibson & Johnson's No. 1 J. M. Higginbotham and others, at the middle of the south line of Section 8, Block 31, T-3-N, T.&P. Survey.

### Brown County

Greene Production Co.'s No. 3 P. Davis, 150 feet north and 750 feet west of the southeast corner of the P. Davis tract out of the J. A. Townsend Survey, A-2,007 Humble Oil & Refining Co.'s No. 19 J. T. Hodnett-A, 697 feet north and 1,200 feet east of the southwest corner of the heirs J. M. Harris Survey No. 784. Ven-Mex Oil Co.'s No. 22 R. Hickman, Trustee-A, 550 feet south and 950 feet east of the most westerly northwest corner of their lease out of the Thomas Benson Survey No. 783. Same company's No. 23 R. Hickman, Trustee-A, 990 feet south and 1,365 feet east of the most westerly northwest corner of their lease out of the Thomas Benson Survey No. 783.

Young Brothers-Alexander & Woodley Petroleum Co.'s No. 9 J. S. Armstrong, 750 feet north and east of the most southerly southwest corner of the J. S. Armstrong 231.5-acre tract out of the Patrick Curlong Survey No. 151. Same company's No. 22 R. Hickman, 150 feet south and 750 feet east of the northwest corner of their 80-acre lease out of the Thomas Benson Survey No. 783. Amerada Petroleum Corp.'s No. 1 J. D. Smith, 750 feet northeast of the southwest line and 1,300 feet northwest of the southeast line of the E. R. Myers Survey No. 202.

P. A. Diggs' No. 1 J. H. Counts, 200 feet south and 150 feet west of the northeast corner of the M. M. Flores Survey No. 614. H. P. Evans' No. 1 W. E. Martin heirs, 150 feet south and 1,250 feet west of the northeast corner of the W. E. Martin heirs 43.5-acre tract out of Section 11, H.T.&B. Survey. H. Gutman's No. 10 L. J. Stanley, 1,950 feet east of the Fort Worth & Rio Grande Railroad and 150 feet north of the south line of the L. J. Stanley 320-acre tract out of the heirs W. A. Smith Survey No. 139.

Hammon & Garrett's No. 1 D. Strange, 150 feet south and 700 feet east of the northwest corner of the D. Strange 195-acre tract out of the J. E. Melton Survey No. 125. Hart & Cole, Inc.'s No. 1 E. L. Dixon, 450 feet southwest of the northeast line and 1,400 feet northwest of the southeast line of the E. L. Dixon 172.5-acre tract out of the J. Grant Survey No. 136. A. C. McGahey and others' No. 1 W. D. Shields, 150 feet north and west of the southeast corner of the north 80 acres of Lot 21, George W. Pentecost Survey No. 100.

### Callahan County

R. O. Eubanks & Son's No. 4 R. O. Eubanks, 150 feet north and 750 feet east of the SW cor. of Section 48, Comal County School Land. Ed Schaffner and others' No. 1 C. B. McGee, 150 feet north and 450 feet east of the southwest corner of the C. B. McGee tract out of the G. M. Vigal Survey No. 798. The Texas Company's No. 20 P. G. Hatchett, 480 feet south and 150 feet west of the NE cor. of the SW of the NE of Section 23, Deaf & Dumb Asylum Land. R. N. Webb's No. 1 R. J. Harris, 150 feet north and 500 feet east of the SW cor. of the NW of the SE of Section 39, Deaf & Dumb Asylum Land.

### Coleman County

Broderick & Calvert's No. 1 Leon Weaver, 4,240 feet north and 2,250 feet west of the southeast corner of the Andrew Gabel Survey No. 271. Herbert Oil Co. and others' No. 2 Leon Weaver, 150 feet south and west of the northeast corner of Lot 17, Andrew Gabel Survey No. 271. Joines and others' No. 1 Will Pollard, 1,600 feet north and 150 feet east of the southwest corner of Lot 5, Pleasant Young Survey No. 494.

### Eastland County

Bruce-McKain & Richie's No. 1 Scott Marshall, 1,250 feet south and 385 feet west of the northeast corner of the M. A. Moore Survey. R. Outlaw and others' No. 1 C. E. Terrill, 225 feet south and 430 feet west of the NE cor. of Section 17, McLennan County School Land, Leagues 3 and 4. Panhandle Refining Co.'s No. 1 C. S. Wheeler, 450 feet south and 520 feet east of the northwest corner of the north 50 acres of the C. S. Wheeler 100-acre tract out of Section 23, McLennan County School Land, League 2. States Oil Corp.'s No. 1 E. A. McDonald, 250 feet north and 700 feet east of the southwest corner of the E. A. McDonald tract out of Section 7, Block 1, H.&T.C. Survey.

### Fisher County

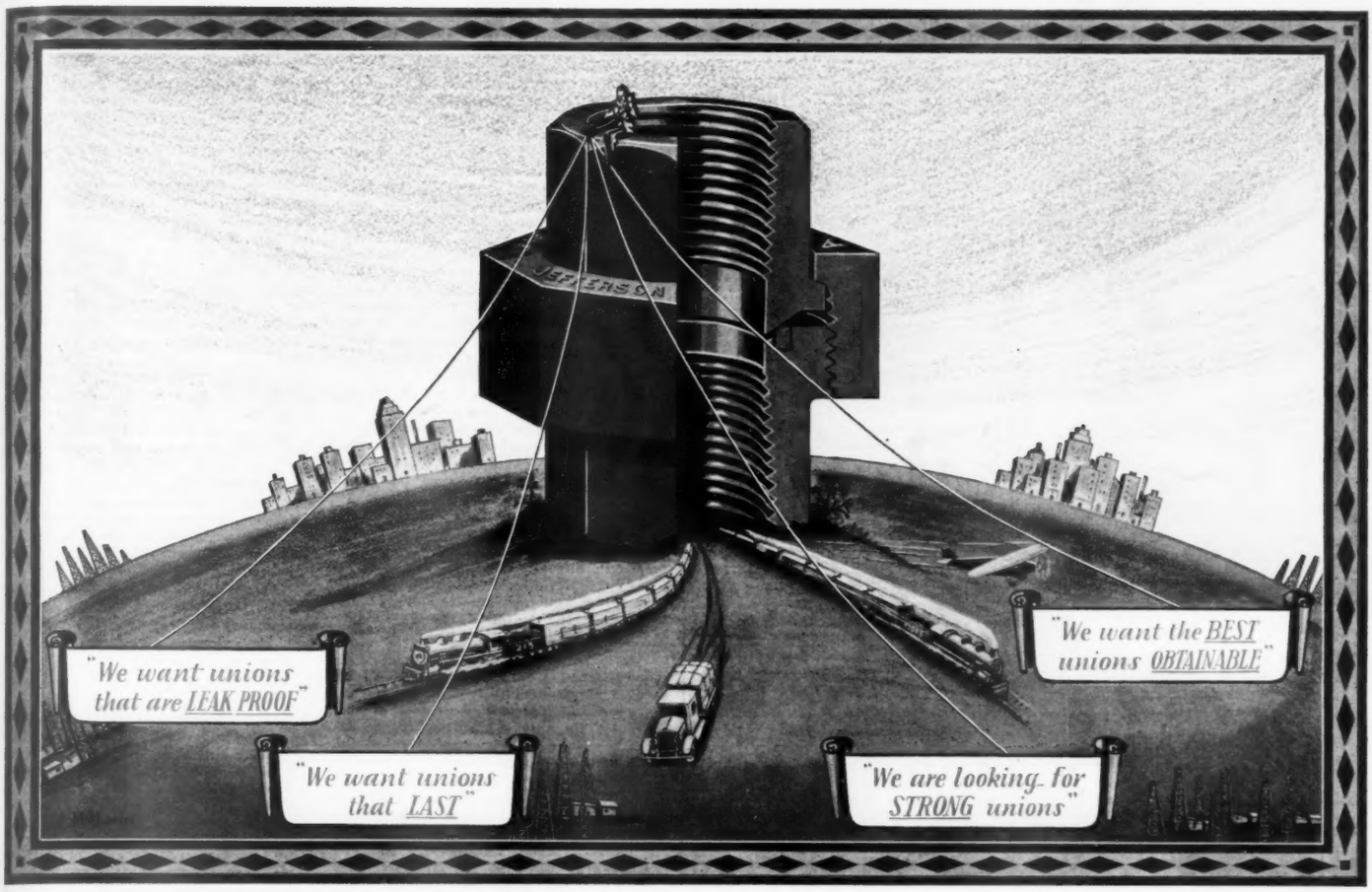
Roeser & Pendleton's No. 1 A. T. Haught, 440 feet south and 1,320 feet east of the NW cor. of the SW of Section 191, B.B.B.&C. Survey.

### Glasscock County

McElreath & Suggett's No. 1 W. H. Underwood, at the C of the NE of Section 24, Block 36, T-4-S, T.&P. Survey.

### Howard County

Amerada Petroleum Co. and Ryeade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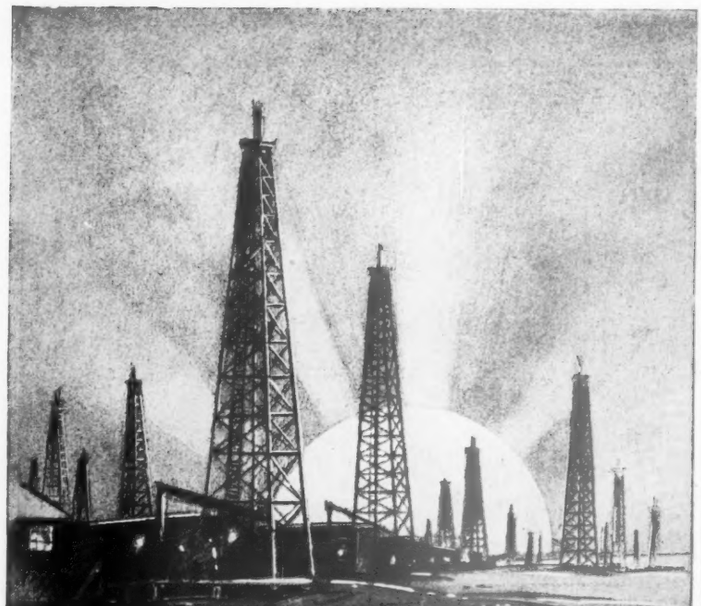

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Rig Lighter

Oil Corp.'s No. 7 Dora Roberts, 330 feet south and 2,310 feet west of the NE cor. of Section 137, Block 29, W.&N.W. R.R. Survey. Group 1 Oil Co. and Marland Production Co.'s No. 7 W. R. Settles, 330 feet south and east of the NW cor. of Section 133, Block 29, W.&N.W. R.R. Survey. Marland Production Co.'s No. 7 H. R. Clay, 990 feet south and west of the NE cor. of Section 155, Block 29, W.&N.W.R.R. Survey. Moody Oil Corp.'s No. 14 Dora Roberts-B, 380 feet south and 2,310 feet east of the NW cor. of Section 137, Block 29, W.&N.W.R.R. Survey. Same company's No. 15 Dora Roberts-B, 2,310 feet south and 380 feet east of the NW cor. of Section 137, Block 29, W.&N.W.R.R. Survey. Schermerhorn Oil Co.'s No. 5 Dora Roberts, 990 feet south and 330 feet west of the NE cor. of Section 157, Block 29, W.& N.W.R.R. Survey.

**Jack County**

Bryson Oil & Gas Co.'s No. 1 W. A. Daugherty, 150 feet south and west of the northeast corner of the east 80 acres of the W. A. Daugherty 249-acre tract out of the T.&N.O. Survey No. 4, A-1,-971.

**Jones County**

McMan Oil & Gas Co.'s No. 2 C. A. Bickley, 330 feet north and east of the SW cor. of the NE of Section 50, Block 18, T.&P. Survey.

**McCulloch County**

Lanning and others' No. 1 W. D. Walker, at the center of the SE of the A. E. Reine Survey No. 1,196.

**Loving County**

Lockhart & Co.'s No. 2 W. W. Hubbard, 1,660 feet southwest of the northeast line and 330 feet northwest of the southeast line of Section 83, Block 33, H.&T.C. Survey.

**Montague County**

Gulf Production Co.'s No. 1 A. Willett and others, 1,320 feet south and 150 feet west of the northeast corner of Block 95, Kaufman County School Land, A-407.

**Pecos County**

Grayburg Oil Co.'s No. 1 University Land, 990 feet south and 330 feet west of the NE cor. of Section 2, Block 17, University Land. Mid-Kansas Oil & Gas Co.'s No. 5 Mrs. M. A. Smith, 250 feet south and 6,821 feet east of the NW cor. of Section 31, Block 194, G.C.&S.F. Survey.

**Runnels County**

Marland Production Co.'s No. 1 August Herring, 330 feet south and 1,650 feet west of the NE cor. of Section 139, E.T.R.R. Survey.

**Shackelford County**

Grisham-Hunter Corp.'s No. 1 W. Y. and R. A. Davis, 150 feet north and east of the SW cor. of the NW of Section 20, Block 13, T.&P. Survey. Roeser & Pendleton's No. 12 W. I. Cook-B, Section 61, 150 feet south and 579 feet east of the NW cor. of the SW of the SW of Section 61, Block 10, E.T.R.R. Survey. Same company's No. 9 W. I. Cook-A, Section 83, 415 feet south and 1,040 feet west of the NE cor. of the SE of Section 83, Block 10, E.T.R.R. Survey. Simms Petroleum Co.'s No. 6 H. A. Lones, 955 feet south and 600 feet east of the NW of Section 64, Block 11, T.&P. Survey.

**Stephens County**

Texas Fidelity Oil Corp.'s No. 1 D. S. Harston, 660 feet north and east of the SW cor. of the SE of the Abraham Marshall Survey No. 25.

**Tom Green County**

Williams and others' No. 1 A. Willeke, 2,500 feet north and 75 feet east of the SW cor. of Section 3, Deaf & Dumb Asylum Land.

**Ward County**

Gulf Production Co.'s No. 4 G. W. O'Brien and others, at the center of the NW of the SW of Section 19, Block F, Gunter & Munson, Maddox Brothers & Anderson.

**Wichita County**

Gulf Production Co.'s No. 3 S. Mitchell and others, 450 feet south and 150 feet east of the northwest corner of the east 105.5 acres of John T. Lewis Survey, A-460. Same company's No. 2 J. A. Kemp and others-D, 150 feet north and west of the southeast corner of the north half of Lot 11, Block 26, Kemp's Wichita Valley Lands. J. G. Rowe and others' No. 1 J. L. and T. J. Waggoner, 150 feet south and 1,050 feet west of the northeast corner of Lot 13, Section 2, G.C.&S.F. Survey, A-772. Ryan Petroleum Corp.'s No. 1 J. L. and T. J. Waggoner, 150 feet south and 700 feet west of the northeast corner of the W. R. Eaves Survey, A-753. Staley & Wynne Oil Co.'s No. 14 Kemp & Kempner, 150 feet south and 750 feet west of the northeast corner of Block 82, Kemp Wichita Valley Land.

**Wilbarger County**

Fain-McGaha Oil Corp.'s No. 3 W. T. Waggoner-W, 150 feet north and 750 feet east of the SW cor. of the NE of Section 32, Block 4, H.&T.C. Survey. Kelly & Adams' No. 1 W. T. Waggoner, 200 feet south and 660 feet east of the NW cor. of the SW of the NW of Section 16, Block 4, H.&T.C. Survey.

**Winkler County**

American Maracaibo Co.'s No. 2 Ida Hendricks-B, 1,980 feet north and 1,650 feet east of the SW cor. of Section 28, Block B-5, School Land. Humble Oil & Refining Co.'s No. 9 T. G. Hendricks-C (Lease No. 2), 1,320 feet north and 330 feet east of the SW cor. of Section 10, Block B-12, School Land. Shell Petroleum Corp. and others' No. 5 W. F. Scarborough, 330 feet north and 990 feet east of the SW cor. of Section 3, Block C-22, School Land. Southern Crude Oil Purchasing Co.'s No. 7 Ida Hendricks T-88-H, 2,310 feet north and 990 feet east of the SW cor. of Section 28, Block B-5, School Land.

**Young County**

Allday Oil Corp.'s No. 1 G. W. Johnson-D, 150 feet north and west of the southeast corner of Lot 1, Edward W. Sergeant Survey, A-253. Allday Oil Corp. and others' No. 1 Dan Orr, 1,250 feet north and 150 feet west of the SE cor. of Section 1,922, T.E.&L. Survey. J. Bundy and others' No. 1 J. N. Davis, 150 feet north and west of the southeast corner of the north 20 acres of the W half of Section 1,395, T.E.&L. Survey. J. C. Cunningham's No. 1 J. C. C. Edwards, 750 feet south and 150 feet west of the northeast corner of the J. C. C. Edwards 100-acre tract out of the S. Tynes Survey, A-274.

N. D. Goldsmith's No. 1 J. E. Bishop, 150 feet north and west of the SE cor. of the S half of the NW of Section 162, T.E.&L. Survey. May-Camp Drilling Co.'s No. 1 H. O. Prideaux, 150 feet north and west of the southeast corner of the east 105 acres of the H. O. Prideaux 345-acre tract out of the A. Rohus Survey, A-240. Rennell & Walton's No. 1 Birdwell & Hazzard, 150 feet south and east of the northwest corner of the J. H. Van Sickle Survey, A-647. R. R. Rhodes and others' No. 2 E. M. Eichelberger-A, 150 feet south and 750 feet west of the NE cor. of Section 1,449, T.E.&L. Survey.

Riggs & Oliphant's No. 1 E. B. Prideaux, 1,825 feet north and 5,525 feet east of the southwest corner of the S. Tynes Survey, A-274, being 150 feet north and east of the southwest corner of their 50-acre lease. C. C. Williams No. 2 M. H. Bagley, 750 feet southeast of the northwest line and 450 feet northeast of the southwest line of the M. H. Bagley 80-acre tract out of the A. Averett Survey, A-2. Wootten & Reed's No. 1 G. P. Stewart, 450 feet south and 7,237 feet west of the northeast corner of the S. Tynes Survey, A-274. T. G. Shaw and others' No. 1 B. P. Roark, 707 feet north and 250 feet west of the southeast corner of the south 60 acres of the J. E. Rogers Survey, A-1,629.

**Corrections**

Archer County—F. P. Rose's No. 4 J. R. Garvey, 750 feet north and 150 feet west of the southeast corner of the east 60 acres of the north 160 acres of Section 1,856, T.E.&L. Survey.

Brown County—K. E. Liebhart's No. 1 J. R. Lewis, 200 feet north and west of the southeast corner of the J. R. Lewis 400-acre tract out of the James Kinney Survey No. 624.

Montague County—Pure Oil Co.'s No. 8 J. W. Maddox-D, 650 feet north and 600 feet east of the southwest corner of their 91-acre lease "D" out of the John Chambliss Survey, A-123.

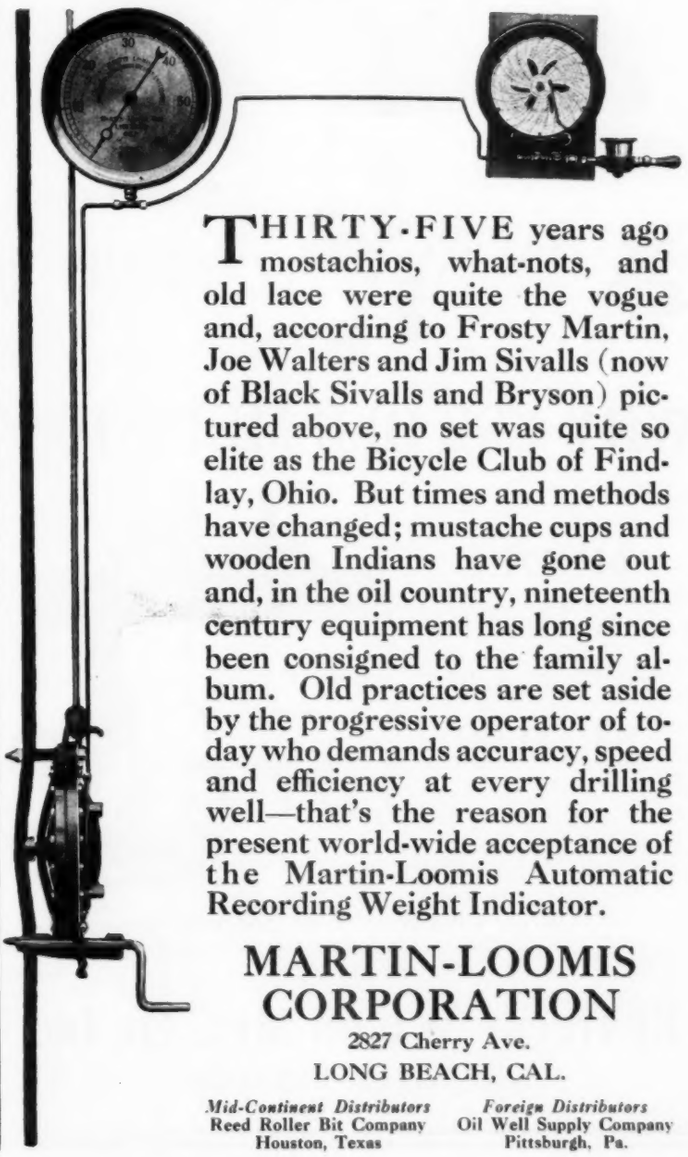
## TEXAS GROSS PRODUCTION, FOURTH QUARTER, 1928

(Continued from Page 118)

| Name and address— | Barrels | Value |
|---|---|---|
| Leonard, George, Somerset | 546.64 | 603.71 |
| Lowe, Delaney & Carter, DeLeon | 653.13 | 972.91 |
| Lamb, George E. and Superior Oil & Prod. Co., Brownwood | 147.43 | 200.49 |
| Letwin, Sam (Akers lease), Breckenridge | 1,157.52 | 1,658.64 |
| Letwin, Sam (Curry lease), Breckenridge | 1,248.53 | 1,786.57 |
| Lefors Petroleum Co., Lefors | 120,432.28 | 153,667.51 |
| Lackey, W. G., Tulsa, Okla. | 3,003.64 | 4,423.97 |
| Little Caddo Syndicate, Fort Worth | 834.96 | 1,255.84 |
| Little Flower Oil Co., St. Louis, Mo. | 779.40 | 982.75 |
| Lesh, Killcrease & Co., Nocona | 2,577.81 | 2,320.03 |
| Lesh & McCall, Nocona | 27,356.01 | 16,413.61 |
| Lucey Petroleum Co., Dallas | 460.70 | 640.41 |
| Levy, Leonard M., trustee No. 2, Fort Worth | 1,448.47 | 2,332.04 |
| Levy, Leonard M., trustee No. 1, Fort Worth | 3,362.75 | 5,619.16 |
| Lowenstein Oil Co., Rockdale | 1,214.77 | 1,712.87 |
| Leiser-Rochmill Prod. Co., Fort Worth | 1,564.95 | 2,368.09 |
| Louisiana Oil & Refining Corp., Shreveport, La. | 52,613.22 | 45,156.73 |
| Liberty Oil & Gas Trust, Baltimore, Md. | 394.82 | 517.20 |
| Landreth Production Co., Fort Worth | 5,495.54 | 7,058.04 |
| Lesh, John L. & Co., Wichita Falls | 10,742.06 | 6,895.47 |
| Larkin, W. B., trustee, Wichita Falls | 300.54 | 457.19 |
| Linedo Oil Co., Lincoln, Neb. | 1,823.04 | 1,823.04 |
| Loggie & Arendt Oil Co., Albany | 2,727.00 | 3,436.02 |
| Lake View Oil Co., Sour Lake | 13,735.90 | 16,483.08 |
| Little, William, Breckenridge (9-30-28) | 327.90 | 431.92 |
| Lone Star Gas Co., Dallas | 9,032.30 | 13,957.97 |
| Lake Erie Trust Co., trustee, Cleveland, Ohio | 885.05 | 1,424.93 |
| Lebow, C. H., Tulsa, Okla. | 1,240.32 | 1,996.89 |
| Lake Graham Oil Co., Houston | 3,117.72 | 3,864.29 |
| Lewis, J. E., et al, Eastland | 665.96 | 965.80 |
| Lewis, J. E., & Co., Eastland | 2,832.57 | 4,177.91 |
| **M** | | |
| Midwest Exploration, Amarillo | 112,890.01 | 139,385.01 |
| Minnehoma Oil & Gas Co., Tulsa, Okla. | 7,060.14 | 6,318.95 |
| McIlroy Oil Co., Inc., Amarillo | 58,311.81 | 52,202.61 |
| Martin & Hamilton, Wichita Falls (9-30-28) | 88,497.42 | 119,825.50 |
| Morton, A. D., Tulsa, Okla. | 613.12 | 833.85 |
| Martin & Hamilton, Wichita Falls | 29,928.93 | 41,092.42 |
| McKanna, James E., Agent, Wichita Falls | 46,559.74 | 66,701.60 |
| Maxson & Co., Wichita Falls (1-1-28 to 9-30-28) | 3,703.86 | 5,169.99 |
| Maer & Staniforth, Wichita Falls | 1,730.91 | 2,267.48 |
| Magee Brothers, Electra | 960.73 | 1,542.40 |
| M. & V. Oil Co., Wichita Falls | 4,457.00 | 6,802.08 |
| Mid-Kansas Oil & Gas Co., Findlay, Ohio | 1,611,634.73 | 1,086,268.72 |
| Murko Oil & Royalty Co., Dallas | 10,547.91 | 16,450.29 |
| McCutchen, C. E., trustee, Wichita Falls | 8,579.32 | 12,958.83 |
| McChesney, Nancy, Olney | 5,124.62 | 7,124.14 |
| Moutray Oil Co., Abilene | 88,017.46 | 132,316.88 |
| Mook-Texas Oil Co., Fort Worth | 12,235.37 | 17,594.00 |
| Mann, Floyd (Payne lease), Graham | 1,026.00 | 1,497.71 |
| Mann & Forbes, Graham (9-30-28) | 2,149.27 | 3,219.71 |
| Mann & Forbes, Graham | 2,145.30 | 3,345.65 |
| Maxwell, J. C., Fort Worth | 80,442.22 | 54,652.84 |
| Madden & Hunt, Olney | 32,242.24 | 52,749.85 |
| McMan Oil & Gas Co., Tulsa, Okla. | 408,521.11 | 344,494.91 |
| Murchison Oil Co., Dallas | 348,111.48 | 238,771.86 |
| McCarty Oil Co., Wichita Falls | 70,243.57 | 113,728.83 |
| Mid-Continent Petroleum Corp., Tulsa, Okla. | 13,951.35 | 19,725.90 |
| Manhattan Oil Co. of Kansas, Tulsa, Okla. | 14,198.00 | 17,632.51 |
| Mamie, J. H., Wichita Falls | 19,021.06 | 28,429.27 |
| Mariand Production Co., Ponca City, Okla. | 1,104,682.17 | 1,026,531.45 |
| Magnolia Petroleum Co., Dallas | 3,031,049.56 | 3,170,185.49 |
| Midwest and Gulf Co. of Texas, trust estate, Tulsa, Okla. | 1,273.34 | 1,455.99 |
| Mordyan Petroleum Co., Pampa | 111,844.37 | 160,054.70 |
| Marnet Oil & Gas Co., Tulsa, Okla. | 3,855.93 | 5,473.12 |
| Moss & McDermott, Fort Worth | 379.39 | 531.98 |
| McDonald, W. W., et al, Dallas | 3,985.72 | 6,003.36 |
| McCormick & Noack, Rockdale | 147.13 | 200.14 |
| Meridian Petroleum Corp., Tulsa, Okla. | 3,546.68 | 5,004.36 |
| Mid-Continent Holding Corp., Wichita Falls | 3,108.59 | 4,397.65 |
| McCall, C., trustee, Nocona | 793.59 | 714.23 |
| Minntex Oil Corp., Wichita Falls | 898.29 | 1,304.91 |
| Marquette Oil Co., Tulsa, Okla. | 5,791.80 | 6,965.43 |
| Mills Bennett Production Co., Houston | 93,102.74 | 110,249.20 |
| Mecom Oil Co., Liberty | 5,794.81 | 6,953.77 |
| Medina Oil & Gas Assn., San Antonio | 214.54 | 246.55 |
| McDaniel Oil Corp., Cisco | 5,057.03 | 8,314.12 |
| McCullough Everett, Wichita Falls | 384.78 | 542.96 |
| McCrary, E. W., Tulsa, Okla. | 4,426.29 | 6,069.88 |
| Madison Oil & Gas Co., Electra | 5,611.21 | 9,056.32 |
| Moss, Urschel & Keys, Dallas | 11,585.53 | 15,756.21 |
| Moss & Urschel, Dallas | 21,247.38 | 29,284.20 |
| Mennis, G. W., Wichita Falls | 5,715.73 | 8,447.44 |
| Merrick & Lamb, Ardmore, Okla. | 25,449.18 | 20,359.34 |
| Merrick & Bristow, Ardmore, Okla. | 172,573.12 | 115,573.12 |
| Moody Corp., Tulsa, Okla. | 252,784.04 | 302,405.65 |
| Moran, W. J., Wichita Falls | 2,722.08 | 4,381.33 |
| McLester Oil Co., Eastland | 22,808.49 | 38,820.07 |
| McNamara Oil Co., Beaumont | 2,534.52 | 3,041.42 |
| McBride, W. C., Inc., St. Louis, Mo. | 5,361.68 | 7,225.83 |
| Mendenhall Oil Co., Cisco | 2,262.20 | 3,719.20 |
| McCoy, J. H., Tulsa, Okla. | 509.42 | 852.46 |
| McJunkin, Florence T., et al, Tulsa, Okla. | 536.29 | 902.10 |
| Moore, F. L., trustee, Tulsa, Okla. | 2,484.36 | 3,636.61 |
| Mayberry, C. R., Co., Laredo | 3,596.67 | 3,596.67 |
| Maxwell, J. C., Fort Worth (6-30-28) | 11,608.21 | 6,964.93 |
| Mills & Garrity, Corsicana | 1,725.40 | 2,070.48 |
| McCarter, R. C., Cisco | 389.59 | 584.59 |
| Montgomery, Rea & Montgomery, Sedwick | 1,990.97 | 2,911.00 |
| Minerva Petroleum Co., Minerva | 645.06 | 925.72 |
| Meredith & Gant, Wichita Falls | 2,576.12 | 3,231.05 |
| Maben Oil Corp., Wichita Falls (1-1-28 to 12-31-28) | 868.38 | 1,218.63 |
| Matador Oil & Gas Co., Quanah | 20.50 | 28.84 |
| May, F. N., Santa Anna | 263.08 | 345.47 |
| Macknold Company, San Antonio | 223.64 | 254.68 |
| McGraw Oil Co., Tulsa, Okla. | 1,547.08 | 2,085.10 |
| Mitcham, G. P., Cisco | 1,132.34 | 1,640.49 |
| Minor Oil Co., Beaumont | 8,455.42 | 10,146.50 |
| McNallen & Griffin, Tulsa, Okla. | 5,892.06 | 8,480.91 |
| Midland Oil Co., Fort Worth | 7,247.98 | 11,966.41 |
| Medio Oil Co., San Antonio | 914.12 | 1,142.65 |
| Mason, J. E., Fort Worth | 3,167.56 | 4,895.10 |
| McMurray, J. L., et al, Cisco | 2,244.41 | 3,908.67 |
| Milham Corp. of Texas, San Antonio | 12,991.93 | 20,400.92 |
| McDonald, M. C., Putnam | 4,459.23 | 6,602.98 |
| Marshall, George S., Laredo | 11,606.51 | 11,606.51 |
| McFall, J. M., Wichita Falls (period 1927 & 1928) | 15,522.68 | 21,571.60 |
| Menke, John G., Wichita Falls (period March 1928 to 12-31-28) | 1,837.13 | 2,789.13 |
| Meredith, J. D., Moran | 4,760.09 | 5,664.75 |
| McCutchen, C. E., (Petroleum Producers Co.) Wichita Falls | 1,576.29 | 2,459.03 |
| Moore, N. A., Eastland | 2,877.06 | 4,158.99 |
| **N** | | |
| New Domain Oil & Gas Co., Pittsburgh, Pa. | 4,507.59 | 4,159.35 |
| National Investment Co., Breckenridge | 2,790.77 | 4,215.47 |
| National Supply Co. of Texas, Fort Worth | 163.21 | 238.29 |
| Norman Oil Co., Wichita Falls | 1,122.68 | 1,760.15 |
| Nunn-Stubblefield Oil Co., Amarillo | 8,882.86 | 10,304.11 |
| Number Nine Oil Co., Tulsa, Okla. | 2,539.68 | 3,883.84 |
| Newport & Ohio Petroleum Co., Newport, N. Y. | 239.48 | 346.41 |
| Navarro Oil Co., Houston | 149,961.68 | 191,015.05 |
| National Oil Co., San Antonio | 804.73 | 809.88 |
| Nabob Oil & Gas Co., Amarillo | 10,979.14 | 16,302.11 |
| National Petroleum & Refining Co., Wichita Falls | 97.44 | 150.63 |
| Noble Oil & Gas Co., Tulsa, Okla. | 2,974.00 | 4,176.22 |
| Noack Oil Co., Rockdale | 1,852.16 | 2,586.44 |
| Noak & Lanning-Phillips & Perry, Rockdale | 154.59 | 210.24 |
| Noak & Lanning-Shelton, Rockdale | 396.06 | 542.63 |
| Newton-Palmer Oil Co., Rockdale | 537.76 | 754.50 |
| Nimrod Oil Co., Dallas | 213.65 | 343.97 |
| Natt & Gates, Wichita Falls | 1,613.87 | 2,597.83 |
| Necessity Oil Corp., Eastland | 1,238.18 | 1,726.95 |
| Nunn & McAuley Oil Co., Amarillo | 11,948.10 | 13,992.69 |
| North Fork Oil Co., Amarillo | 3,676.74 | 4,572.05 |

(Continued on Next Page)

# Consigned to the Old Family Album



THIRTY-FIVE years ago mostachios, what-nots, and old lace were quite the vogue and, according to Frosty Martin, Joe Walters and Jim Sivalls (now of Black Sivalls and Bryson) pictured above, no set was quite so elite as the Bicycle Club of Findlay, Ohio. But times and methods have changed; mustache cups and wooden Indians have gone out and, in the oil country, nineteenth century equipment has long since been consigned to the family album. Old practices are set aside by the progressive operator of today who demands accuracy, speed and efficiency at every drilling well—that's the reason for the present world-wide acceptance of the Martin-Loomis Automatic Recording Weight Indicator.

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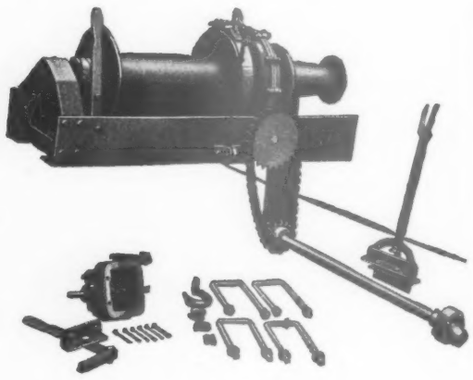
## 1929 MODELS
### ALL SIZES OF TRUCKS



**MODEL**
**K W 75**
**5000 lbs Cap.**
**$210.00**

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**MODEL**
**K W 72**
**3000 lbs Cap.**
**$140.00**

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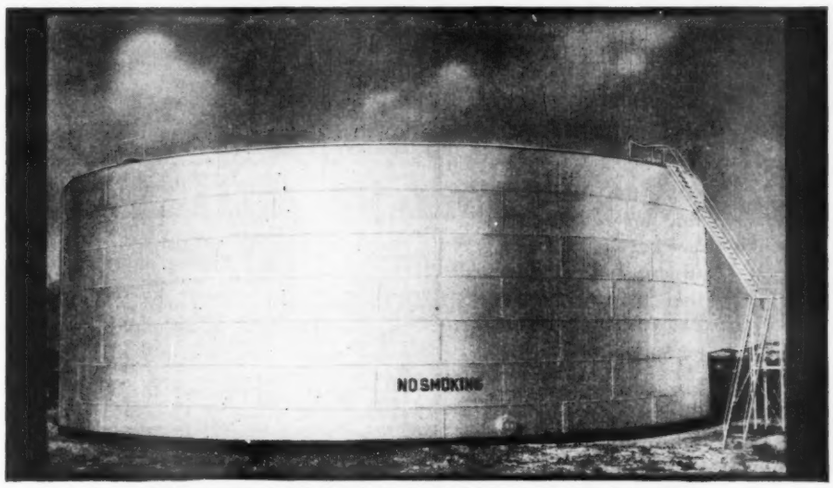
| Name and address— | Barrels | Value |
|---|---|---|
| **O** | | |
| Oil Investment Co., Wichita Falls | 3,067.50 | 4,497.75 |
| Overby, J. D., Iowa Park | 552.44 | 862.79 |
| Omohundro, W. B., Wichita Falls | 21,472.79 | 33,272.76 |
| Olney Oil & Refining Co., Olney | 679.82 | 1,001.28 |
| Owenwood Pool No. 3 (J. W. Robins, trustee), Fort Worth | 4,171.00 | 5,715.50 |
| Operators Oil & Gas Co., Breckenridge | 1,009.56 | 1,494.81 |
| Oil Operators Trust, Fort Worth, (9-30-28) | 20,201.27 | 22,990.89 |
| Old Ocean Oil Co., Kansas City, Mo. | 3,710.15 | 5,582.90 |
| Owen-Sloan Oil Co., Big Spring | 457,325.15 | 303,362.12 |
| O'Neil, H. A., Burkburnett (7-1-28 to 12-31-28) | 2,283.69 | 3,298.21 |
| Orange Petroleum Co., Orange | 30,948.47 | 36,993.08 |
| O'Neil, John, Wichita Falls | 12,313.85 | 18,683.69 |
| Orient Oil Operating Organization, Wichita, Kans. | 20,025.93 | 14,018.16 |
| Ohio Somerset Oil Co., Cleveland, Ohio | 1,524.67 | 1,600.90 |
| Osage Development Co., Bartlesville, Okla. | 1,272.28 | 1,272.28 |
| Offenbacher, Emil, Tulsa, Okla. | 122.92 | 175.50 |
| Oriental Oil Co., Dallas | 607.53 | 799.03 |
| Owens Oil Co., Brownwood | 736.81 | 756.38 |
| Old Colony Oil Co., Dayton | 1,601.97 | 1,922.36 |
| Olean Petroleum Co., Bristow, Okla. | 24,343.54 | 17,486.27 |
| Optimist Oil Co., Electra | 3,402.99 | 4,978.02 |
| Omilak Oil Co., Spokane, Wash. | 251.54 | 291.78 |
| Oil Operators Trust, Fort Worth | 19,550.38 | 17,376.29 |
| Oldom, William P., Iowa Park | 1,422.00 | 2,356.28 |
| Oklaha Co., The, Tulsa, Okla. | 863.84 | 1,214.14 |
| **P** | | |
| Powers Production Co., Houston | 1,931.14 | 2,017.17 |
| Phillips, J. R., (Blasdel), Amarillo | 263.84 | 182.05 |
| Phillips, J. R., (Heywood), Amarillo | 14,312.36 | 14,453.82 |
| Proctor Oil Co., Wichita Falls (4-1-28 to 9-30-28) | 6,628.35 | 9,856.76 |
| Pollard, W. E. & C. E., Pampa | 6,972.97 | 9,591.77 |
| Phair & Wright, Houston | 508.33 | 355.82 |
| Primrose Oil Co., Sour Lake (9-30-28) | 1,400.74 | 1,680.87 |
| Parsons, Edward V., Fort Worth (9-30-28) | 304.69 | 597.66 |
| Patterson, W. A., Fort Worth (12-31-27) | 2,115.58 | 2,874.97 |
| Preston Oil & Gas Co., Brownwood | 351.05 | 442.97 |
| Piper, L. E., trustee, Vernon | 2,091.62 | 2,990.13 |
| Price-Russell & Co., Ranger | 4,351.00 | 7,426.64 |
| Portland Drilling Corp., Wichita Falls | 962.31 | 1,454.96 |
| Parry Oil Co. of Texas, Fort Worth | 1,130.39 | 1,589.14 |
| Powell, J. L., Wichita Falls | 429.70 | 645.71 |
| Pois, M., trustee, Wichita Falls | 288.36 | 436.42 |
| Pois, M., et al, Wichita Falls | 5,579.84 | 8,524.79 |
| Pioneer Oil, Gas & Refining Co., Danville, Ill. | 1,201.75 | 1,295.93 |
| Piney Oil & Gas Co., New York, N. Y. | 6,280.66 | 5,280.35 |
| Pinto Oil Co., Mineral Wells (9-30-28) | 558.89 | 681.85 |
| Pinto Oil Co., Mineral Wells | 338.02 | 477.28 |
| Pickens & Lewis, Dallas | 574.03 | 867.19 |
| Pivoto, M. E., Sour Lake | 3,073.59 | 3,688.30 |
| Putnam Oil Co., Tulsa, Okla. | 50,440.63 | 73,798.92 |
| Paraffine Oil Co., The, Houston | 13,695.71 | 16,434.86 |
| Pratt, Thomas H., Brenham | 185.50 | 181.32 |
| Perkins, J. J., Wichita Falls | 3,306.40 | 4,936.02 |
| Petroleum Investment Co., Fort Worth | 3,606.99 | 5,575.81 |
| Poole, B. O., Batson | 1,297.03 | 1,587.22 |
| Palmer, Freddie Oil Co., Rockdale | 142.51 | 175.93 |
| Poor Boy Oil Co., Rockdale | 543.19 | 738.93 |
| Py-Tex Oil Co., Winchester, Ky. | 868.29 | 1,526.16 |
| Pennok Oil Corp., Tulsa, Okla. | 19,132.74 | 24,046.34 |
| Prescott Phoenix Oil & Gas Co. (A. C. Trumbo, trustee) Muskogee, Okla. | 325.62 | 244.51 |
| Petroleum Venture Co., Somerset | 244.54 | 393.72 |
| Progressive Production Co., Kansas City, Mo. | 1,689.47 | 2,601.33 |
| Producers & Refiners Corp. of Texas, Independence, Kan. | 5,456.42 | 7,993.01 |
| Prairie Lea Production Co., San Antonio | 7,059.48 | 7,059.48 |
| Primrose Oil Co., Sour Lake | 1,280.28 | 1,536.22 |
| Producers Drilling Co., Wichita Falls | 9,586.66 | 14,512.63 |
| Pace and Ward, Breckenridge | 1,926.45 | 2,831.88 |
| P-M Drilling Co. (W. E. Ross, W. L. Samuels, A. J. Fraley), Chelsea, Okla. | 208.55 | 307.87 |
| Powell, H. J., trustee, San Antonio | 4,137.39 | 5,624.25 |
| Parks, J. T., et al. (Henry Riley, receiver), Amarillo | 7,326.31 | 10,385.96 |
| Paggi, Charles & Co., Beaumont | 1,403.51 | 1,690.32 |
| Paggi Brothers Oil Co., Beaumont | 11,837.28 | 14,204.76 |
| Philp Brothers, Beaumont | 2,504.42 | 3,005.30 |
| Phillips, W. G. & J. B. Milam, Chelsea, Okla. | 112.25 | 163.88 |
| Pemeta Oil Co., Fort Worth | 9,263.95 | 13,894.25 |
| Peery, Thomas H., Wichita Falls | 1,403.05 | 2,188.75 |
| Producers Supply & Tool Co., Marietta, Ohio | 3,214.19 | 4,919.54 |
| Paull Oil Co., Graham | 23,860.37 | 38,313.96 |
| Pitzer & West, Breckenridge | 19,583.33 | 27,200.00 |
| Palo Duro Oil Co., Amarillo | 12,428.46 | 12,890.88 |
| Pure Oil Co., Chicago, Ill. * | 1,851,071.75 | 1,554,928.93 |
| Prairie Oil & Gas Co., (Prairie Shamrock operating account) Independence, Kans. | 89,312.53 | 112,928.40 |
| Palo Duro Oil Co., Amarillo | 10,427.02 | 10,547.20 |
| Pantex Oil Co., Fall River, Mass. | 15,086.00 | 18,173.75 |
| Pennowa Oil & Gas Co., Skiatook, Okla. | 20,407.51 | 23,497.33 |
| Phillips, J. R., (Currie), Amarillo | 6,306.11 | 6,266.66 |
| Park Petroleum Corp., Wichita Falls (9-30-28) | 1,479.44 | 1,983.78 |
| Park Petroleum Corp., Wichita Falls (6-30-28) | 1,558.23 | 2,021.04 |
| Park Petroleum Corp., Wichita Falls (12-31-28) | 1,927.36 | 2,448.11 |
| Park Petroleum Corp., Wichita Falls (12-31-27) | 2,122.66 | 2,737.37 |
| Park Petroleum Corp., Wichita Falls (9-30-27) | 1,977.49 | 2,560.57 |
| Park Petroleum Corp., Wichita Falls (6-30-27) | 1,951.06 | 2,507.31 |
| Pace, George L., Wichita Falls | 782.54 | 1,319.71 |
| Pois, Fine & Schulz, Wichita Falls | 1,095.12 | 1,708.39 |
| Pois & Johnson, Wichita Falls | 657.80 | 1,026.16 |
| Pandem Oil Corp., Wichita Falls | 23,710.48 | 35,190.02 |
| Pilkington, F. L., Burkburnett | 2,121.08 | 2,969.51 |
| Pelwin Oil Corp., Wichita Falls | 614.56 | 860.20 |
| Palwin Oil Corp., Wichita Falls | 111.95 | 162.44 |
| Payne, F. G., et al, Wichita Falls | 4,156.38 | 6,662.69 |
| Palmer & Burch, Inc., Wichita Falls | 22,127.86 | 34,681.29 |
| Perkins & Cullum, Wichita Falls | 35,771.35 | 55,797.84 |
| Prairie Oil & Gas Co., Independence, Kans. | 1,307,998.16 | 1,259,002.79 |
| Panhandle Refining Co., Wichita Falls | 107,392.60 | 158,031.37 |
| Petroleum Producers Co., Wichita Falls | 107,965.42 | 161,988.34 |
| Phillips Petroleum Co., Bartlesville, Okla. | 1,565,149.92 | 1,891,644.61 |
| **Q** | | |
| Quartet Oil Co., Tulsa, Okla. | 8,131.10 | 13,450.30 |
| Quinn, J. W., et al, Eastland | 10,985.92 | 19,142.78 |
| Quincy Oil Co., Electra | 195.84 | 303.50 |
| **R** | | |
| Red Bank Oil Co., Tulsa, Okla. (4-1-28 to 1-12-29) | 98,248.24 | 62,299.49 |
| Rockwell, J. A., & Co., Warren, Pa. | 2,487.52 | 3,567.57 |
| Ramsey & Decker, Breckenridge | 7,268.42 | 10,931.45 |
| Ray & Massie, Wichita Falls | 24,940.50 | 33,220.16 |
| Ryan Consolidated Petroleum Corp., Tulsa, Okla. | 101,967.82 | 150,755.54 |
| Root, C. M., Eastland | 10,714.00 | 16,347.00 |
| Root, C. M., et al, (Root Drug Co.), Eastland | 13,981.00 | 20,874.00 |
| Root, C. M., et al, (Root & Fehl), Eastland | 20,174.00 | 31,005.00 |
| Root, Rhodes, et al, Eastland | 17,247.00 | 28,096.00 |
| Root & Rhodes, Eastland | 4,331.00 | 6,668.00 |
| Riverbed Lease of A. L. Hawse, Fort Worth | 67,991.00 | 44,194.15 |
| Ross Amigos Oil Co., Laredo | 11,401.04 | 11,401.04 |
| Ross Segunda Oil Co., Laredo | 698.72 | 698.72 |
| Ross, James F., Laredo | 3,813.21 | 3,813.21 |
| Red Rock Oil Co., Tulsa, Okla. (8-1-28 to 12-31-28) | 959.95 | 1,017.59 |
| Russell & Wilson, Wichita Falls | 4,364.33 | 5,933.44 |
| Rosenberg, Jacob, trustee, Tulsa, Okla. | 32.59 | 44.25 |
| Rosenberg, Jacob, Tulsa, Okla. | 77.75 | 168.59 |
| Robertson, R. R., Wichita Falls | 10,851.70 | 15,152.43 |
| Rhader & Carey, Wichita Falls | 5,829.87 | 8,123.09 |
| Reeder & Scarborough, Wichita Falls | 1,203.29 | 1,824.59 |
| Robert Oil Corp., Breckenridge | 59,481.48 | 93,873.92 |
| Riggs & Oliphant, Graham | 20,086.96 | 29,262.65 |
| Rathke Oil Co., Wichita Falls | 26,622.42 | 41,518.20 |
| Ramming & Saunders, Wichita Falls | 3,706.88 | 5,958.54 |
| Ramming, Staley & Ramming, Wichita Falls | 620.24 | 918.97 |
| Ramming, R. W., Wichita Falls | 7.83 | 10.01 |
| Rex-Tex Oil Co., Winchester, Ky. | 868.29 | 1,526.16 |
| Ramsel, W. T. Oil Co., Rockdale | 1,854.34 | 2,614.61 |
| Republic Production Co., Houston | 996,724.50 | 888,927.17 |
| Rycade Oil Corp., Houston | 188,183.89 | 210,929.88 |

(Continued on Next Page)

# *Oil Evaporation*
# REDUCED TO A MINIMUM




*An oil tank owned by the Associated Oil Company, Monterey, California. Aluminum Paint conserves the oil in this tank and protects the tank itself from destructive elements.*

ALUMINUM PAINT is saving many thousands of dollars in the oil industry by materially reducing evaporation losses.

Applied to oil tanks, its silvery-gray color reflects the hot rays of the sun instead of absorbing them—keeping interiors and contents several degrees cooler.

Aluminum Paint also forms a durable, non-rusting coat-of-metal which protects tanks and other field equipment from the destructive forces of nature and effectively resists harmful gases and fumes—even those of hydrogen sulphide.

TRADE MARK

*The pigment base for the better grades of Aluminum Paint is ALBRON made of pure ALCOA Aluminum.*

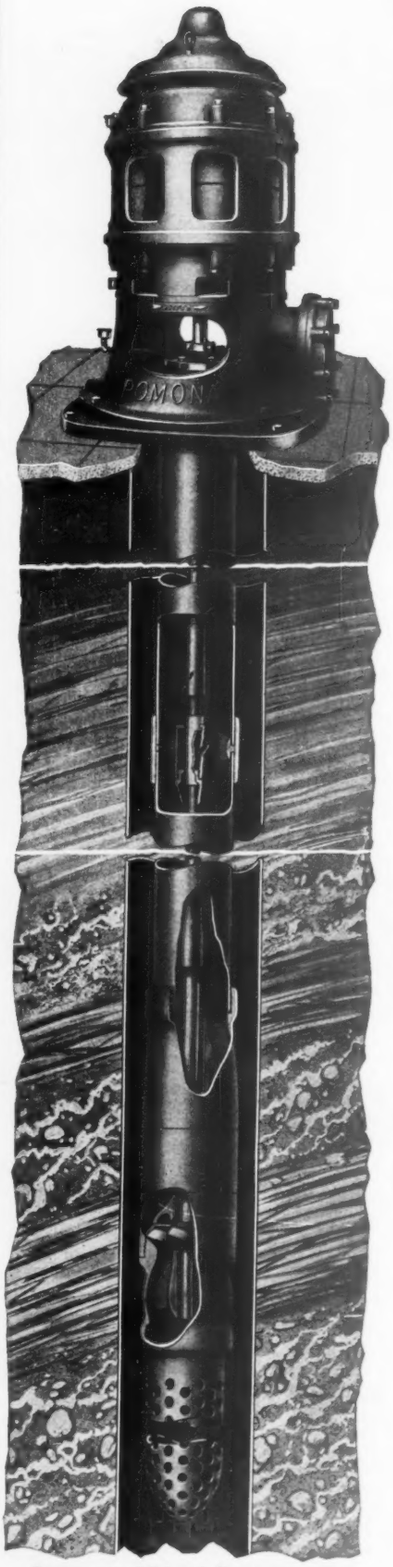
*In buying Aluminum Paint, tell your dealer how you propose to use it—and whether indoors or out. Most good paint dealers are prepared to furnish the kinds best suited to your needs. If yours is not, write us, giving his name and address, and we will see that he is supplied.*

Write for the booklet, "Aluminum Paint, The Coat-of-Metal Protection," which explains its unique "leafing" principle and its unusual economy.

**ALUMINUM COMPANY OF AMERICA**
2417 Oliver Building, Pittsburgh, Pa.
*Offices in 19 Principal American Cities*
ALUMINUM IN EVERY COMMERCIAL FORM

# ALUMINUM PAINT
*"IT LEAFS"*

# Especially Designed for Refining Service



## Pomona Centrifugal Turbine Pumps

—are the most desirable for refining service because of many advantages and exclusive features that do away with ordinary pump troubles.

For example, Pomona Pumps are lubricated below the surface of the ground by *Water* in the well. Pomona water lubrication eliminates the use of oil and grease below the head and assures a supply of uncontaminated water. There are no oil tubes to become loose and leak, clog or break.

The bearings constantly resist sand-cutting, repel overheating and prevent destructive friction. Highest efficiencies, frequently 20% higher, are maintained over a wide range.

*Features:*

Longer bearing life
Sand-cutting resisted
Simplest construction
No excessive vibration
Less power required
Slower depreciation
Longer pump life
Highest efficiencies

*Ask for Engineering Data.*

**Pomona Pump Co.**

206 East Commercial St.
Pomona, Calif.

615 Bessemer Bldg.
Pittsburgh, Penn.

*Distributors:*

Southern Engine & Pump Co., 615 Washington Avenue, Houston, Texas

United Iron Works, Inc., Springfield, Missouri

Menge Pump & Machinery Co., 862 Tchoupitoulas Street, New Orleans, La.

Pomona water-lubricated Pumps are manufactured for production from 25 to 4,500 gallons per minute and for installation in wells as small as 4" inside diameter. Twenty different types of heads to meet practically every known pumping condition.


| Name and address— | Barrels | Value |
|---|---|---|
| Rammins, R. W., Wichita Falls | 7.83 | 10.64 |
| Randado Oil Corp., Oklahoma City, Okla. | 35,528.68 | 35,528.68 |
| Rowe, J. G., Wichita Falls | 622.33 | 853.94 |
| Rio Bravo Oil Co., Houston | 451,205.73 | 557,489.04 |
| Rhodes & Highers, Breckenridge | 6,247.81 | 9,246.75 |
| Rochmill, Henry, trustee, Fort Worth | 356.62 | 617.86 |
| Roeser & Pendleton, Inc., Fort Worth | 385,899.87 | 589,927.40 |
| Rockdale Junior Oil Co., Rockdale | 291.02 | 395.78 |
| Ruyle Farm & Oil Co., Wichita Falls | 7,568.19 | 11,805.23 |
| Riner & Bailey, Wichita Falls | 22,733.50 | 33,712.61 |
| Red Bank Oil Co., Tulsa, Okla. | 18,241.48 | 27,660.15 |
| Red River Oil Co., Tulsa, Okla. | 17,969.34 | 27,680.00 |
| Reclamation Company, Fort Worth | 6,317.20 | 8,949.27 |
| Reserve Petroleum Co., Tulsa Okla. | 718.81 | 1,167.83 |
| Rockdale Oil Co., Rockdale | ..... | ..... |
| Reeder, et al, Wichita Falls | 7,769.84 | 12,031.01 |
| Robinson, O. D., Pittsburgh, Pa. | 1,613.16 | 1,839.00 |
| Reno Oil Co., Sistersville, W. Va. | 62,838.00 | 97,966.40 |
| Rock Creek Oil Corp., Amarillo | 18,928.41 | 14,868.80 |
| Rowe, M. D., Wichita Falls (9-30-28) | 1,086.34 | 1,574.85 |
| Rentex Oil Co., San Antonio | 7,417.28 | 8,974.91 |
| Ross & Slicker Oil Co., Cisco | 741.92 | 1,145.11 |
| Ross, C. E., Burkburnett | 632.87 | 918.27 |
| Ruthada Oil Co., Oklahoma City, Okla. | 15,217.03 | 16,887.73 |
| Rountree, White & Simpson, Rockdale | 943.19 | 1,320.90 |
| Ridgeway, G. R., Wichita Falls | 1,070.34 | 1,582.11 |
| Refer-Foster Oil Corp., Tulsa, Okla. | 13,808.50 | 19,513.95 |
| Ramsey, E. H., Rising Star | 660.12 | 1,128.75 |
| Roy Long Oil Co., Navasota | 2,811.25 | 4,106.43 |
| Ruby Oil Co., Minerva | 244.72 | 345.03 |
| Reinhart, M. J., trustee, Oklahoma City, Okla. | 558.36 | 845.42 |
| Ranell Oil Co., Oklahoma City, Okla. | 4,853.78 | 7,326.51 |
| Rubsam & Hunter, Wichita Falls | 2,107.30 | 3,210.20 |
| Robinson, Arthur D., Dallas | 9,387.08 | 11,068.03 |
| Rose, F. P., Wichita Falls | 979.23 | 1,108.46 |
| Roberts, H. W., Wichita Falls | 3,855.82 | 6,197.94 |
| Rex Petroleum Corp., Vinton, La. | 28,032.18 | 33,638.61 |
| **S** | | |
| States Oil Corp., Eastland | 43,037.36 | 66,990.51 |
| Sheldon, W. P., Electra | 2,750.60 | 4,310.69 |
| Sterling Oil & Gas Co., Abilene | 163.27 | 226.14 |
| Smith, W. B., et al, Eastland | 336.14 | 491.66 |
| Shaw Oil Co., Wichita Falls | 22,079.94 | 36,258.58 |
| Swicegood, F. L., trustee, Eastland | 495.71 | 737.14 |
| Schlicher Oil Co., Beaumont | 66.07 | 96.81 |
| Schermerhorn Oil Co., Tulsa, Okla. | 362,089.99 | 242,511.93 |
| Snider, C. W., Wichita Falls | 1,399.08 | 2,288.44 |
| Schaffner-Wilson, et al, Wichita Falls | 2,079.10 | 3,524.69 |
| Supreme Oil Co., Orange | 2,385.06 | 2,862.06 |
| Sinclair Oil & Gas Co., Tulsa, Okla. | 140,764.28 | 226,028.34 |
| Sun Oil Co., Dallas | 1,013,903.10 | 1,119,358.37 |
| Stribling, J. C., (Hautier No. 1 well), Llano | 643.54 | 894.49 |
| Sneed Royalty Co., Tulsa, Okla. | 1,249.99 | 1,682.25 |
| Skelly Oil Co., Tulsa, Okla. | 1,262,531.57 | 1,010,898.43 |
| Sullivan, M. J., Kansas City, Mo. | 348.87 | 472.02 |
| Staley, Wynne & Co., Wichita Falls | 121,065.14 | 167,780.94 |
| Staley, J. L. & Co., Wichita Falls | 3,847.57 | 5,436.00 |
| Shell Petroleum Corp., St. Louis, Mo. | 3,358,633.66 | 2,342,380.47 |
| Sawyer, W. G., Brownwood (10-1-28 to 12-31-28) | 1,762.88 | 2,746.94 |
| Scarborough & Smith, Burkburnett | 624.23 | 764.67 |
| Scarborough, W. A., Burkburnett | 1,642.55 | 2,450.70 |
| Shasta Oil Co., Wichita Falls | 648.35 | 939.12 |
| Seaboard Oil & Gas Co. of Texas, Wichita Falls | 26,482.97 | 41,090.81 |
| Stekoll, Harry, Borger | 959.77 | 933.74 |
| Simms, E. F., Houston | 27,234.58 | 34,971.57 |
| Scott & Nance, Graham | 1,058.29 | 1,479.26 |
| Scott & Britton, Graham | 168.60 | 237.76 |
| Sprague Oil Co., Ardmore, Okla. | 73,356.86 | 47,688.66 |
| S. & W. Oil Co., Amarillo | 19,948.94 | 18,049.91 |
| Snow Oil Co., Graham | 526.97 | 752.95 |
| Sheldon, C. P., Electra | 8,897.06 | 13,176.97 |
| Sun Burst Oil Co., Amarillo | 2,471.78 | 2,400.89 |
| Stoops, J. P., Ranger | 231.73 | 307.27 |
| Slick, T. B., et al, Oklahoma City, Okla. | 7,960.39 | 12,601.66 |
| Stephens & Fisher, Wichita Falls | 1,043.73 | 1,496.74 |
| Selby Oil & Gas Co., Tulsa, Okla. | 8,826.60 | 14,949.52 |
| Sink, Joel, Corsicana | 227.00 | 332.90 |
| Stroube & Stroube, Corsicana | 38,363.15 | 53,922.03 |
| Steed, Paul P., Wichita Falls | 2,027.19 | 2,933.96 |
| Steed, Paul P., Wichita Falls | 550.22 | 710.77 |
| Salado Oil Co., San Antonio | 1,766.65 | 1,947.74 |
| St. Marys Oil & Gas Co., St. Marys, W. Va. | 34,284.12 | 41,151.33 |
| Southern Crude Oil Purchasing Co., Fort Worth | 2,903,917.18 | 1,887,546.21 |
| Schimmel Production Corp., Fort Worth | 29,972.74 | 34,894.15 |
| Simms Oil Co., Dallas | 846,749.82 | 716,493.91 |
| Shamrock Company, Inc., Wichita Falls | ..... | ..... |
| Snowden & McSweeney Co., New York, N. Y. | 142,479.36 | 216,935.91 |
| Shaw, T. G., Fort Worth | 100,018.58 | 120,008.22 |
| Smith-McIntosh & Thomas (Branch lease), Cameron | 1,596.90 | 2,251.67 |
| Smith, McIntosh & Thomas, Cameron | 738.34 | 1,004.13 |
| Spring Creek Oil Co., Amarillo | 6,328.82 | 6,307.85 |
| Stump, E. J. & Harry Hince, Wichita Falls | 12,892.66 | 19,467.21 |
| Steele, Charles F., et al, Rosston, Ark., (12-31-28) | 780.98 | 1,077.75 |
| Steele, Charles F., et al, Rosston, Ark. (9-30-28) | 901.65 | 1,217.23 |
| Steele, Charles F., et al, Rosston, Ark. (6-30-28) | 953.96 | 1,311.54 |
| Seybert Brothers, Mooringsport, La. | 7,423.69 | 12,322.13 |
| Sedwick Oil Co., Tulsa, Okla. | 15,082.26 | 20,434.23 |
| Sinclair Oil & Gas Co., Houston | 156,436.14 | 188,481.74 |
| Smith, E. L., Oil Co., Inc., Mexia | 174,088.32 | 188,054.86 |
| Sunny Jim Oil Co., Tulsa, Okla. | 7,806.43 | 6,138.95 |
| Summerfield Oil Co., Tulsa, Okla. | 327.53 | 498.93 |
| Shertzer Brothers, Dewey, Okla. | 9,972.96 | 14,678.53 |
| Simmons, T. K., Tulsa, Okla. | 4,265.97 | 5,966.30 |
| Slicker, Homer, Cisco | 967.79 | 1,303.61 |
| Stock, Anna B., Cisco | 441.51 | 643.81 |
| Sigler Oil Co., San Antonio | 1,085.25 | 1,374.50 |
| Saxet Oil Co., Houston | 29,361.59 | 33,284.78 |
| Smith, Mrs. James L., Amarillo | 10,646.51 | 12,246.55 |
| Smith & Bynum, Amarillo | 2,940.94 | 2,802.99 |
| Southern Exploration Co., Houston | 1,039.60 | 1,291.42 |
| Smith, R. E., et al, Houston | 17,722.75 | 22,666.88 |
| Stamphli & Kell Oil Co., Wichita Falls | 50.44 | 69.99 |
| St. Albans, Mrs. Ruth, Laredo | 1,290.07 | 1,290.07 |
| Stratton, Ed F., Pioneer | 349.90 | 440.87 |
| Summit Oil & Refining Corp., Amarillo | 5,417.03 | 5,734.34 |
| Schoolfield, R. E., Wichita Falls | 266.41 | 354.09 |
| Sessions, I. P., Rockdale | 362.90 | 493.54 |
| Southern Petroleum Exploration, Inc., Sistersville, W. Va. | 4,580.39 | 6,425.61 |
| Stidham & Thrasher, Electra | 368.66 | 239.63 |
| Skinner, E. W., Oil Co., Saratoga | 5,294.43 | 5,906.36 |
| Sand Creek Oil Co., Amarillo | 4,965.09 | 4,871.73 |
| St. Louis Oil & Development Co., Wichita Falls | 435.13 | 614.86 |
| Standard Oil Land & Leasing Co., Electra | 254.61 | 397.14 |
| Shappell Oil Co., Wichita Falls | 46,008.79 | 70,557.47 |
| Schaffner, E. N., et al, Cross Plains | 1,324.89 | 1,994.95 |
| Star Drilling Co., Wichita Falls | 4,291.40 | 6,694.58 |
| Saratoga Oil Co., Wichita Falls | 964.84 | 1,505.14 |
| Somerset Crude Oil & Refining Co., Somerset | 3,119.50 | 3,596.92 |
| Swanner, John L., Wichita Falls | 2,312.11 | 3,487.85 |
| Stella Oil Co., Beaumont | 15,042.29 | 18,052.74 |
| Sircovich, A. & Mrs. F. M. Thomas, Houston | 397.30 | 570.99 |
| Shoup, O. H., Jr., Colorado Springs, Colo. | 3,627.92 | 5,579.24 |
| Shattuck, E., Dallas | 2,852.20 | 4,063.21 |
| Speed, C. D., Corsicana | 233.47 | 343.54 |
| Stephens Oil Co., Sour Lake (9-30-28) | 496.60 | 595.92 |
| Stephens Oil Co., Sour Lake (12-31-28) | 438.34 | 526.01 |
| Strelsky, Joe, & H. W. Hefley, Rockdale | 523.40 | 758.87 |
| Seaboard Oil & Gas Co. of Texas, Wichita Falls (9-30-28) | 28,027.32 | 42,096.47 |
| Staley, J. A., Wichita Falls | 2,292.91 | 3,457.22 |
| Stovall, E. C., Graham | 25,268.66 | 39,146.81 |
| Swicegood, F. L., trustee, Eastland | 681.12 | 964.31 |
| Saigh, N. A., San Antonio | 1,999.94 | 2,582.67 |
| Smith, Mrs. James L., (oil account), Amarillo | 14,403.53 | 14,949.56 |
| Smith & Bynum, Amarillo | 3,106.20 | 2,643.30 |
| Superior Oil Producing, Tulsa, Okla. | 2,372.49 | 3,557.62 |
| San Belt Petroleum Co., Kansas City, Mo. | 592.16 | 415.01 |
| Stock, H. L., Cisco | 2,714.38 | 3,795.55 |
| Sandefer-Atkinson-Daniel Oil Corp., Breckenridge | 7,308.06 | 10,552.26 |
| Shinola Oil Co., Graham | 391.84 | 513.37 |
| Syndicate Oil Corp., Rochester, N. Y. | 422.51 | 676.96 |

(Continued on Next Page)

# STOP THIS WANTON WASTE!

Old and feeble at 14 months! A failure in fact—and it was put down in the ground with hot tar and best wishes.

But if wishing would preserve pipe lines, well casing and storage tanks, there would be no need for NO-OX-ID.

It is significant that NO-OX-ID has been called upon often for reconditioning work.

And more significant are the reports sent in by our service men: "Inspected . . . . and found it 100%. NO-OX-ID and Wrapper in perfect condition."

NO-OX-ID isn't the cheapest coating to buy—but it is the cheapest to use.

DEARBORN CHEMICAL COMPANY
NO-OX-ID-IZED WRAPPER
REG U.S. PAT OFF
NEW YORK CHICAGO

When all costs of laying line and digging it up again for reconditioning or replacement are figured, NO-OX-ID becomes an item of first consideration and a major economy.

NO-OX-ID and NO-OX-ID-IZED Wrapper add years to the life of a line.

Serviced in the field by men who have done the job many times.

# NO·OX·ID

## IRON + O X = RUST

TRADE MARK

# The Original Rust Preventive

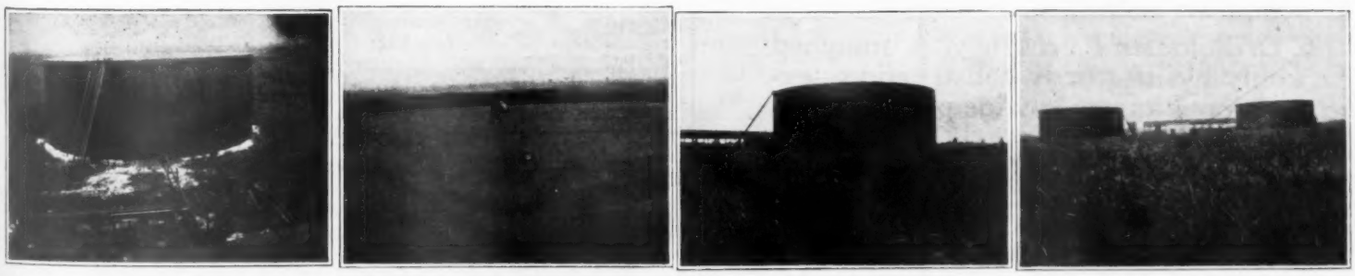
**Dearborn Chemical Company**

*"A House of Chemical Engineers" In Its Forty-First Year of Service to Industry*

**310 South Michigan Ave., Chicago** **299 Broadway, New York**

*Canadian Offices and Factory:* 2454-2464 Dundas St., West, Toronto

## Protection for Storage Tanks



*Storage tanks protected sides, tops and bottoms, with NO-OX-ID. A sensible insurance against external rust.*

# THE EYES OF THE DRILLER THE WORLD OVER

***Modern Drilling practice demands the use of the Precision Drillometer when drilling***

When such able authorities as Glen Robertson, Associated Oil Company; O. P. Yowell, Pacific Western Oil Co.; L. E. Porter of the Richfield; Alexander Anderson, the premier Oil Well Surveyor and Inventor; J. J. Hern, General Superintendent of the C.C.M. O., and Frederick W. Hild, Consulting Engineer, all agree (Petroleum World, February, Page 82) that blind drilling results in crooked holes, we all naturally sit up and take notice. It's a fact —and expensive!

The Precision Drillometer offers you the following exclusive advantages:

1. The Drillometer's compensating device alone makes accurate results possible. To get the weight of the bit on bottom, your instrument *must* be exact. The Drillometer is!
2. The Drillometer's full floating deflector makes it so sensitive that it is used from the day the well is spudded in.
3. The Drillometer's flexible connection eliminates all tubing leaks. No extra bother or time lost for repairs.
4. The Drillometer's pulsation throttle gives smoothly inked charts, necessary to a clear and clean record.
5. The Drillometer is made of the finest nickel-bronze—the finest instrument supplies to the Oil Industry.
6. Drillometer's accuracy is matched only by its sturdy construction—explaining its world-wide popularity.

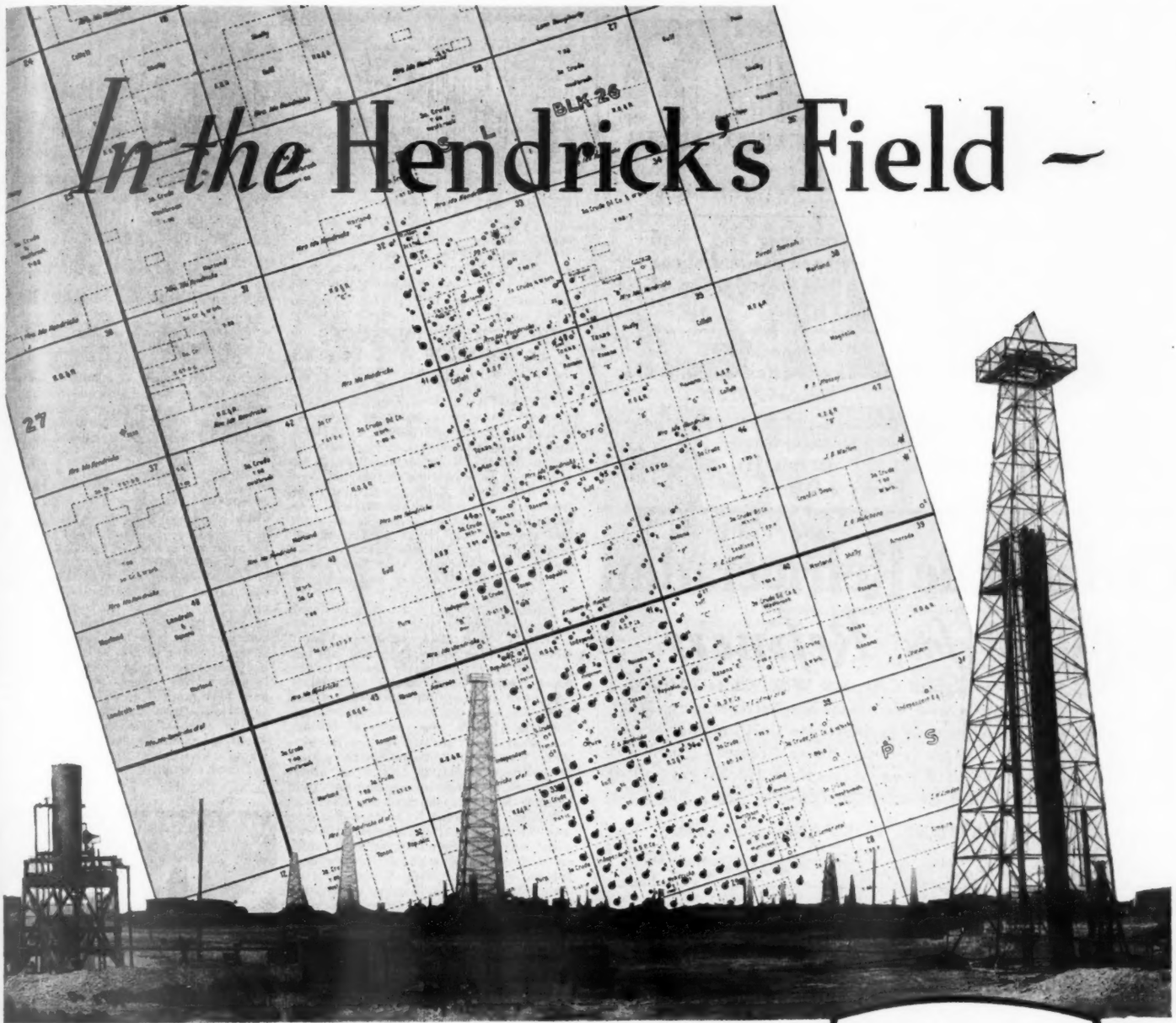
## THE DRILLOMETER CO.

507 Terminal Sales Bldg., Los Angeles, Calif.

*Oklahoma Representative:*
General Oil Tool Co., Tulsa, Seminole


| Name and address— | Barrels | Value |
|---|---|---|
| Skia-Tex Petroleum Co., Amarillo | 38,660.50 | 42,795.23 |
| Somerset Oil Co. of Massachusetts, Easthampton, Mass. | 110.76 | 112.81 |
| Stead, Paul P. & A. R. Gaus, Wichita Falls | 4,091.91 | 5,339.64 |
| Smith, M. L. V., Vernon | 786.84 | 1,070.10 |
| Swensondale Petroleum Corp., Caddo | 9,504.70 | 13,780.04 |
| **T** | | |
| The Texas Company, Houston | 4,067,572.27 | 4,997,079.32 |
| Teatsorth, L., Eastland | 665.39 | 1,078.55 |
| Teatsorth, L., et al No. 1, Eastland | 2,401.03 | 4,091.88 |
| Tidal Osage Oil Co., Tulsa, Okla. | 8,001.12 | 9,490.00 |
| Tidal Oil Co., Tulsa, Okla. | 225,536.40 | 189,376.30 |
| Tower & MaKanna, Inc., Wichita Falls | 9,723.93 | 15,879.44 |
| Tholl Oil Co., Beaumont | 4,693.00 | 7,842.56 |
| Terry, H. W., Sour Lake | 10,843.00 | 12,468.40 |
| Transcontinental Oil Co., Tulsa, Okla. | 33,424.91 | 47,161.21 |
| Transcontinental Oil Co., Tulsa, Okla. | 5,006.53 | 7,135.94 |
| Transcontinental Oil Co., Tulsa, Okla. | 1,559,865.87 | 1,013,912.82 |
| Tucker Oil Co., Wichita Falls | 79,959.03 | 114,650.00 |
| The Texas Electra Co., Newark, Ohio | 282.39 | 447.43 |
| Texas Fidelity Oil Corp., Louisville, Ky. | 10,631.39 | 17,875.81 |
| Timms-Dietsch Oil Corp., Amarillo | 3,145.00 | 4,080.30 |
| Timms, L. W., Oil Corp., Amarillo | 3,604.00 | 4,900.93 |
| Thomasson, E. M. & Co., Inc., Denver, Colo. | 779.58 | 1,305.70 |
| Trirnont Petroleum Co., Shreveport, La. | 6,516.51 | 11,251.40 |
| Two Republics Oil & Gas Co., Laredo | 10,465.76 | 10,465.76 |
| Travelers Oil Co., Amarillo | 11,042.32 | 12,398.13 |
| Texas Pacific Coal & Oil Co., Thurber (Other companies for) | 310,061.33 | 342,765.14 |
| Texas Pacific Coal & Oil Co., Thurber | 74,513.50 | 111,308.82 |
| Theis Oil Co., Sour Lake | 1,798.37 | 2,158.04 |
| Triangle Petroleum Co., Inc., The, Fort Worth | 757.48 | 1,143.79 |
| Tegler, T. E., San Antonio | 24.00 | 24.00 |
| Trans-Bay Oil Co., Galveston | 500.00 | 1068.00 |
| Taylor-Link Oil Co., Houston | 47,203.22 | 30,740.00 |
| Texas Consolidated Oil Co., San Francisco, Calif. | 15,285.09 | 24,144.61 |
| Texas Unity Oil Co., Dallas | 2,973.72 | 4,635.20 |
| Towns, M. K., Luling | 10,350.53 | 12,146.97 |
| Texon Oil & Land Co. of Texas, Big Lake | 201,722.86 | 121,677.43 |
| Timblin, W. E., Wichita Falls | 158.78 | 249.27 |
| Tripplehorn, J. W. & D. R., Fort Worth | 2,320.09 | 3,278.34 |
| Tidwell, H. L., trustee, Graham | 1,807.63 | 2,547.67 |
| Thompson, J. E., Humble | 686.00 | 823.88 |
| Texas Petroleum Development Co., Cameron | 5,098.35 | 7,268.81 |
| Tate-Weekley & Tubb, Fort Worth | 7,287.60 | 5,830.00 |
| Taylor-Sibley Syndicate, Dallas | 2,442.82 | 3,810.70 |
| Tannehill, L. B., Albany | 65,706.00 | 98,753.69 |
| Tidwell, R. W., trustee, Graham | 5,003.52 | 7,488.61 |
| Tower & McKanna, Inc., Wichita Falls | 5,790.15 | 9,384.63 |
| Texota Petroleum Co., Electra | 338.86 | 545.55 |
| Trinity Production Co., Wichita Falls | 741.68 | 1,143.15 |
| Triangle Oil & Gas Co., Rockdale | 1,415.73 | 1,969.21 |
| Trinity Townsite Co., Dallas | 757.13 | 1,109.21 |
| Tillery, L. J., Oil Co., Inc., Beaumont | 9,003.65 | 10,881.42 |
| Turman, L. L., Fort Worth (6-30-28) | 11,608.21 | 6,964.91 |
| Teci Production Co., Breckenridge | 2,948.83 | 4,173.94 |
| Thaxton, W. H., Estate, Austin | 236.32 | 345.93 |
| Texas Oil Corp., Dallas | 157.17 | 205.99 |
| Tucker, G. A., Dallas | 1,974.89 | 2,184.13 |
| Tyson Oil Co., Sour Lake | 495.66 | 594.79 |
| Tidwell, H. L., trustee, Graham | 2,886.44 | 3,866.00 |
| Thomas, J. A., Burkburnett | 2,408.41 | 2,501.82 |
| Tillman, J. W., Humble | 530.97 | 616.82 |
| Turman, L. C., Fort Worth | 78,219.91 | 50,842.94 |
| Tucker, W. B., Dallas | 1,892.96 | 2,440.41 |
| Talley & Irick, Shreveport, La. | 154.16 | 209.60 |
| **U** | | |
| United Oil & Fuel Co., Sour Lake | 1,212.82 | 1,455.37 |
| U. S. Royalties Corp., Tulsa, Okla. | 595.17 | 738.04 |
| United Producers Co., Wichita Falls | 17,323.72 | 26,883.29 |
| Union Production Co., Rockdale | 5,148.31 | 7,207.63 |
| United Royalties Corp., Wichita Falls | 1,644.76 | 2,709.32 |
| Unice & Carpenter, Houston | 5,397.00 | 6,468.99 |
| Unity Oil Co., Beaumont | 21,461.00 | 25,730.00 |
| Underwood Drilling Co. (Erwin lease), Wichita Falls | 795.96 | 1,086.12 |
| Underwood Drilling Co. (U-C-Ward lease), Wichita Falls | 1,959.36 | 2,860.66 |
| Underwood Drilling Co. (Ward A lease), Wichita Falls | 4,676.16 | 6,950.95 |
| United Oil Corp., Wichita Falls | 1,594.22 | 2,325.29 |
| Union Oil & Mining Co., Tulsa, Okla. | 8,164.61 | 11,103.87 |
| United Petroleum Co., Brownwood | 171.68 | 216.31 |
| **V** | | |
| Van Cleave Trust, Baltimore, Md. | 533.16 | 829.29 |
| Van Wormer, F. E., Wichita Falls | 1,378.74 | 2,276.15 |
| Virginia Oil Association, Fort Worth | 2,807.84 | 4,395.17 |
| Valerio, Inc., San Antonio | 564.37 | 622.47 |
| Val Verde Oil Co., Del Rio | 1,873.00 | 2,171.60 |
| Vacuum Oil Co., Houston | 17,192.55 | 30,050.19 |
| Valerio, Inc., San Antonio (9-30-28) | 595.49 | 651.53 |
| Vitek Oil Co., Amarillo (10-1-27 to 10-15-29) | ..... | 830.16 |
| Vergate Oil Co., Tulsa, Okla. | 6,101.71 | 9,138.49 |
| **W** | | |
| Waggoner Refining Co., Electra | 528,917.53 | 754,838.36 |
| Wise & Jackson, Sapulpa, Okla. | 4,530.41 | 6,291.35 |
| Wear, G. F., et al, Brownwood | 192.16 | 196.00 |
| White, Alexander S., Tulsa, Okla. | 13,436.42 | 13,604.50 |
| Witherspoon Refining Co., San Antonio | 10,913.04 | 12,985.41 |
| Witherspoon Oil Co., San Antonio | 18,440.12 | 25,718.60 |
| Williams, Burt, Wichita Falls | 938.93 | 1,158.61 |
| Woodley Petroleum Co., Shreveport, La. | 19,573.31 | 31,745.74 |
| Western Oil Sales Corp., Wichita Falls | 3,204.92 | 4,396.87 |
| Westervelt-Noble, et al, Oklahoma City, Okla. | 3,137.99 | 4,588.24 |
| Wentz, L. H., Ponca City, Okla. | 25,441.86 | 35,154.64 |
| Wilson, Lee, et al, Wichita Falls | 8,280.50 | 12,494.56 |
| Whitehill Oil Corp., Tulsa, Okla. | 7,469.64 | 10,829.35 |
| Walker, B. S., Breckenridge | 1,444.24 | 1,994.47 |
| World Oil Co., Fort Worth | 2,293.92 | 2,156.28 |
| Watts Oil Co., Houston | 12,582.53 | 15,015.88 |
| Williams & Williams, Amarillo | 12,715.32 | 9,278.26 |
| Ward Oil Corp., Ardmore, Okla. | 22,847.07 | 18,277.65 |
| Wallace, Dr. Charles, et ux, Wichita Falls | 24,785.18 | 38,642.36 |
| Whaley Mineral & Realty Trust, Fort Worth | 2,580.14 | 3,756.98 |
| Weldon Oil Co., Saratoga | 11,785.76 | 11,956.44 |
| Washoma Petroleum Co., Enid, Okla. | 2,467.36 | 3,755.50 |
| Wester, E. P., Tulsa, Okla. | 3,177.81 | 5,134.54 |
| Weiler, H. J., Wichita Falls | 315.58 | 450.76 |
| White & Duncan, Wichita Falls | 4,863.08 | 7,078.68 |
| Why Not Oil Co., Mexia | 8,872.00 | 12,869.40 |
| Wood, Benton, Lesh & McCall, Nocona | 7,196.62 | 6,476.96 |
| Wolfe, A. T. & Son, Wichita Falls | 2,253.92 | 3,335.73 |
| Christi, C. B., Wichita Falls | 11,581.40 | 17,327.25 |
| Wahpoo Oil Co., Rockdale | 1,424.55 | 2,078.84 |
| Woods, C. D. & C. C., Ranger | 893.04 | 1,214.53 |
| West, J. F., Cisco | 289.44 | 433.04 |
| Wolfe, D. L., Olney | 1,895.82 | 2,530.85 |
| White Eagle Oil & Ref. Co., Kansas City, Mo. | 58,905.00 | 60,956.00 |
| Woodburn Oil Corp., Dallas | 4,454.47 | 6,614.81 |
| Warner-Quinlan Co. of Texas, Dallas | 225,923.83 | 146,265.00 |
| Wampem Oil Corp., Dallas | 596.02 | 871.58 |
| West, Bessie M., Mrs., Houston | 2,159.00 | 2,590.80 |
| Wheelock & Collins, Corsicana | 18,117.66 | 27,467.54 |
| Wilson Drilling Co., ("Comet" lease), Wichita Falls | 3,997.58 | 6,436.29 |
| Wilson Drilling Co., (K.K."A"&"B" lease), Wichita Falls | 3,240.69 | 5,190.79 |
| Wilson Drilling Co. (K.K."C" lease), Wichita Falls | 551.07 | 797.42 |
| Wilson Drilling Co., ("Rathke" lease), Wichita Falls | 3,193.66 | 4,872.66 |
| Wilson Drilling Co., (Snedeker lease), Wichita Falls | 145.30 | 204.87 |
| Wilkins, L. A., Burkburnett | 2,463.64 | 3,621.35 |
| White, Ralph W., Thrift, (9-30-28) | 935.91 | 1,447.64 |
| White, Ralph W., Thrift | 1,171.23 | 1,829.24 |
| Westheimer & Daube, Ardmore, Okla. | 1,373.85 | 1,868.32 |
| Wilcox, H. F. Oil & Gas Co. of Texas, Tulsa, Okla. | 65,707.79 | 95,855.29 |
| Witcher & Michel, Wichita Falls | 329.31 | 526.92 |
| Witcher, Annie L., Gdn., Wichita Falls | 6,970.28 | 11,025.73 |
| Worth Oil Co., Wichita Falls | 160.00 | 216.00 |
| Webb, J. K. & J. H. Bryant, Corsicana | 385.00 | 385.00 |
| Woody, W. C., Wichita Falls | 1,403.05 | 2,188.77 |
| Wo-Mac Oil Co., Wichita Falls | 1,981.55 | 3,087.77 |
| Wilson-Broach Co., Beaumont | 17,042.94 | 20,451.53 |
| Watson, M. B., Fort Worth | 550.00 | 550.00 |

(Continued on Next Page)




WITH wells in this pool making considerable water and causing rapid corrosion of the pipe, it becomes important to employ material which has proved by test and experience to afford greatest resistance to corrosive conditions.

It is for this reason that so many producers in this area have come to depend upon Byers Galvanized Tubing for maintenance of operations. The advantages of galvanized wrought iron lie first, in the known fact that zinc has greater resistance to corrosion than any ferrous metal. Second, the surface of wrought iron, being furrowed and uneven, affords a better anchorage for the zinc coating, resulting in a considerably thicker and better adhesion of the galvanizing. Third, the wrought iron itself is noted for its high immunity to corrosion, due chiefly to the protection afforded by the millions of silicate slag filaments.

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"The well started to flow suddenly and it was necessary to leave the wash pipe in the hole. Two years later, 1928, all material was removed. The cheaper tubing material was completely eaten up while the 500 feet of Byers galvanized material proved to be in perfect condition with the exception of one length having a very small hole in it."

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| Name and address— | Barrels | Value |
|---|---|---|
| Wetzel, Sophie, Amarillo | 6,265.33 | 6,119.42 |
| Wills Oil Co., Rockdale | 1,831.08 | 2,581.81 |
| Williams, J. H., Dallas | 4,617.20 | 6,891.48 |
| Woods & Bennett, Humble | 6,807.91 | 8,170.86 |
| Weaver & Pois, Wichita Falls | 2,508.72 | 3,694.90 |
| Wichita Petroleum Co., Tulsa, Okla. | 1,298.27 | 1,846.20 |
| Williams, J. H., Dallas (9-30-28) | 5,092.60 | 7,484.46 |
| West, J. H., Cisco | 7,579.72 | 10,968.18 |
| Wakefield, M. E., et al, Cross Plains | 328.22 | 540.82 |
| Western Oil Corp. of Texas, Tulsa, Okla. | 505.19 | 762.82 |
| Weller, J. G., et al, Cross Plains | 2,242.87 | 3,647.78 |
| Webb Oil Co., Humble | 4,924.41 | 5,909.29 |
| Webb, J. R., Corsicana | 362.96 | 475.47 |
| Waggoner Refining Co., Inc., Electra | 96,613.91 | 134,403.72 |
| Woodley Petroleum Co., Shreveport, La. | 6,742.86 | 11,215.60 |
| Woodward & Lee, Houston | 11,075.09 | 12,679.37 |
| Windham & Pilkenton, Burkburnett | 2,140.42 | 3,206.92 |
| Weed-Gayle Oil Co., Beaumont | 8,859.55 | 10,631.46 |
| Wilbarger Oil Co., Wichita Falls | 2,349.03 | 2,951.14 |
| Walker, A. C., Albany | 2,464.23 | 3,398.21 |
| Y | | |
| Yount-Lee Oil Co., Beaumont | 3,210,411.42 | 3,922,227.90 |
| Young Brothers & Alexander, Inc., Fort Worth | 6,742.90 | 11,215.61 |
| Z | | |
| Zadie Belle Oil Co., Fort Worth | 591.00 | 980.53 |

## STEEL TRADE IMPROVES IN TONNAGE AND PRICES

By B. E. V. Luty

PITTSBURGH, Pa., Feb. 25. — Considering the steel industry as a whole, it is doing very well indeed as to both tonnage and prices. Apparently some of the producers did not expect it to do as well as it is doing, but if so they had been careful to keep their misgivings from getting into general circulation. The improvement in tonnage movement since December is only what should be expected, as a regular seasonal swing, for uniform production of steel has had a lull in December and has mounted to a peak for March and April.

Production of steel is running at about 5 per cent over its rate at this date last year, and that is a significant point while the gain over December is not since such gain is merely seasonal. The general rate of steel ingot production is estimated at about 90 per cent of capacity, against 88.20 per cent in January and 85.29 per cent in December. Operations are by no means uniformly distributed. Some large plants are running absolutely full in the open-hearth departments and moderately well in their Bessemer departments. There is a definite though small shortage of crude steel in some districts, observed in various ways. Chicago district rail mills are well provided with shipping orders but are running at only 80 per cent of their full capacity, as only so much steel is allotted them. The Youngstown mills have been asked to overship semifinished steel to some detached finishing mills, which buy their steel, but are confining customers to their regular contract obligations. In no case is there anything like a serious shortage, or somebody would be offering a delivery premium, and nothing of the sort is mentioned. As finishing capacity exceeds steel making capacity by 20 to 30 per cent few finishing departments, relatively, are running full, while some are quite slack, pipe mills and plate mills being conspicuous in that connection, except for Chicago plate mills, which are crowded with business.

The automobile industry is showing phenomenally heavy operation in the aggregate, despite the fact that some makes of cars have relatively light production. January output of cars and trucks was 25 to 30 per cent above the seasonal expectancy, based on the usual relation to last year's total production, while this month production seems to be at something like 25 per cent greater rate, which means that with about 10 per cent less working time there will be a considerably larger monthly aggregate. There is much misgiving as to whether cars are selling in safe relation to the production. There may be overproduction, hence there are chances that the seasonal peak, with its following decrease, will be reached earlier than usual. On an average automobile production reaches its peak at the end of April or the beginning of May, this being shown by an actual computation covering the monthly records of the past seven years. As time is required from the production of the crude steel until the automobile is completed, it will not be long now until automobile trade demand for steel begins to turn the other way.

The tubular goods trade shows no new developments. Pipe mills are running at about 50 per cent for full capacity and seamless tube mills at about 80 per cent. There is a very fair seasonal demand for standard or merchant pipe in butt weld sizes, while in oil country goods such demand as there is runs chiefly to seamless, for deep wells.

Tubular goods prices are well maintained all along the line, according to accounts.

The Carnegie Steel Co. a few days ago announced an advance of $1 a ton in its price on bars, shapes and plates, from 1.90 cents to 1.95 cents and the advance is being followed by other mills, though the market itself cannot be quoted up and of course it is not certain it will go to 1.95 cents as minimum. Large consumers of bars have been held to a 1.90-cent price, which did not look well to them when single carloads could be bought at the figure. Hot rolled strips have been marked up $2 a ton and a few sheet mills have marked up their prices a like amount, but there is room for doubt whether the sheet market as a whole will conform to the lead furnished by these few mills.

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## CENTRAL WEST FIELDS

(Continued from Page 72)

Co. is drilling No. 3 C. A. Ewart, fractional Section 15, and J. H. McBride is drilling No. 1 Marion Hills, fractional Section 25, same township.

The Arkansas Fuel Oil Co.'s second test on the John T. Patterson farm, Lot 12, Monroe Township, Holmes County, is reported making around 1,750,000 feet of gas along with approximately 2 bbls. of oil.

In Jackson Township, Knox County, the Pure Oil Co.'s test on the Parker J. Marvis farm, Section 1, is reported good for 100 bbls. initial, and may mean the opening up of a new productive pool for this county.

Hope Construction & Refining Co. comes to the front with another in Jackson Township, Muskingum County, being No. 3 on the Joseph Varner farm, Section 5, with an initial production of 190 bbls. which follows one by the same company in No. 4 on the Helphrey farm, Section 6, same township, that also made an initial last week of 190 bbls.

In Knox Township, Vinton County, the Co-operative Oil Co.'s No. 1 on the Garfield Brooks farm, Section 3, is reported at 5 bbls. from the upper Berea sand at from 1,107 to 1,111 feet.

## KENTUCKY-TENNESSEE

(Continued from Page 72)

The December runs were distributed, according to the report, between three pipe line companies. The Illinois Pipe Line Co. is credited with 71,824.50 bbls.; Producers Pipe Line Co. with 66,158.18 bbls., and the Aetna Oil Service, 15,204.37 bbls.

Ohio County makes a very bad showing for the week, although it is producing a nice amount of crude of excellent quality and prospects are for greater production the coming summer. Hupp, Duff and others drilled on the Trodgen farm, which joins the Ellis Bartlett farm, near Taffey, north of Clear Run and southwest of the Ambrose-Weller Pool, and got a reported dry hole, while the Bartlett well is good for 100 bbls. Word also comes that the Ohio Oil Co.'s No. 1 on the Kirk farm, which joins the Bartlett farm, on the west, also proved a duster. In the King Pool, north and a little west of the Ambrose-Weller Pool and northeast of Bells Run, the Creek Drilling Co.'s No. 7 on the C. D. Westerfield farm, is a dry hole at 710 feet. In the Whittaker Pool, not far from the King Pool, D. T. Bolling's No. 3 on the O. Westerfield farm, was also dry at 625 feet, while S. R. Nigh and others are credited with a duster in No. 9 on the A. P. Kelley farm, in the Kelley Pool.

### Daviess County

Daviess County made a better showing than did Ohio County, there being six completions, one being gas and the other five were commercial oil producers. In the Brown Pool, near Utica, of this county, Smith, Randolph and others brought in two wells on the Oscar Wells farm; No. 7 producing 40 bbls., while No. 8 was good for 70 bbls. initial.

In the Brown Pool, the Creek Drilling Co.'s No. 4 on the J. F. Leet 66 acres, produced 45 bbls. initial.

Stimson and others' No. 3 on the Doctor Fireline farm, in the southeast part of the county, near the Jones Pool, is reported good for 40 bbls. initial.

Swarthout, Botts and others' second test on the Rhodes farm, 4 miles southeast of Whitesville, is estimated at 35 bbls. initial, according to its showing.

The C. C. C. Oil Co.'s No. 4 on the Hinton farm, in the Jones Pool, developed into a nice gas well, making the third gas well out of the four tests.

### Allen County

In the old Scottsville Field of Allen County, six dry holes are reported. In District 2, C. P. Tannehill's No. 2 on the Fine Thompson farm, in the Meader area, was dry at a shallow depth, in the southwestern part of the lease. Davis & Williams have a dry hole in No. 3 well, 150 feet from the north line and 2,000 feet from the south line of the W. M.


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Dodson 65 acres. In the same district and about 3 miles west of Chapel Hill, Work & Son's No. 2 well, 800 feet from the south line and 600 feet from the east line of the L. M. Duckett farm, is another dry hole. Dodson Brothers and Young hit a dry hole in No. 1 well, 800 feet from the south line and 300 feet from the east line of the Dack Ayres farm, same district.

In District 2, in the northeast part of the county, in the Gainesville area, I. J. Tapp and others' No. 3 well, 150 feet from the south line and 600 feet from the east line of the M. E. Hood farm, drilled in a duster at 377 feet. Lee Moore and Son's No. 3 well, in the northeast corner of the Budy Williams farm, was also dry at 471 feet.

**Other Wells**

Five miles west of Bowling Green, in Warren County, Johnson and Julian's No. 15 on the J. L. Jenkins 373-acre farm, pumped 1 bbl. initial at 532 feet.

In the Franklin Field of Simpson County, to the west of Warren County, the Ohio Oil Co.'s test, 600 feet from the north line and 400 feet from the west line of the M. F. Mitchell farm, was a duster at 992 feet.

**Field Pickups**

The Sidney Petroleum Co. has started the drill at its first test of a big block of acreage just west of Owensboro and the company is hoping for good gas production, being so close into the well-known river town. The first venture is being made on the Rogers & Church farm, better known as the old Fern Hills Coal farm, and a location has been made for another test by this company about a mile northeast of the drilling well on the Rogers-Church, on the Booth farm, and another location will be made as soon as the company can get over the property, the delay being on account of bad roads. This development is in Daviess County.

Botts, Swarthout and others are starting No. 3 on the Rhodes farm, 4 miles southeast of Whitesville, in Daviess County.

Wheeler and Botts are drilling their second venture on the Edward Crow farm, 3 miles west of Burton, in the Gilbert Jolly Pool, near the Daviess County line in Ohio County. No. 1 on this farm makes such a nice showing that it will revive development work in that pool as soon as material can be moved in for new locations on adjoining farms.

Maxey, Ogle and others are about due to complete their second test on the Payton Royal property, in the Friendship Chapel area of Ohio County.

Several wells have been drilled in but are awaiting shots in various parts of Ohio County, also a number of parts of Daviess County.

## OIL AND COAL GAIN AS SOURCES OF POWER

WASHINGTON, D. C., Feb. 23.—Figures showing oil and gas expanding enormously in providing the country with British thermal units, is presented in a special report by the Bureau of Mines showing the relative rate of growth of coal, oil, and water power. The big advance has been since 1918, the year of the peak production of coal. The report was prepared by F. G. Tryon, statistics section of the coal division.

While coal production in 1927 was far below war-time maximum, production of oil, natural gas and water power had increased enormously. The Tryon tables show the increase by showing the effect produced by the coal, gas, oil and water power in terms of British thermal units. Mr. Tryon reduced the annual supply of energy from mineral fuels and water power to a common denominator, trillions of units. Water power is represented by B.t.u.'s of coal necessary to produce the same amount of power.

To make comparisons easier the figures of heat units are reduced to index numbers. The table shows that the production of soft coal in 1927 was 11 per cent less than in 1918 and all coal 12 per cent less. The production of oil, was 153 per cent greater and of natural gas 101

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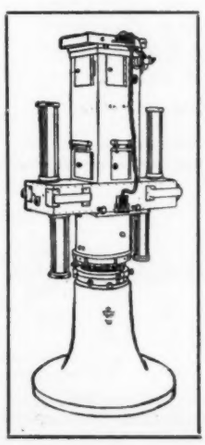

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per cent greater. Imports of oil increased 55 per cent and the total supply of energy in the form of oil and gas increased 133 per cent over 1918. Water power in the same decade increased 102 per cent.

The total production of energy was 13 per cent greater in 1927 than in 1918. While coal fell off, gas and water power doubled and oil increased more than 150 per cent.

"The total supply of energy increased," said Mr. Tryon, "but all the increase and some of the old demand went to sources of energy other than coal.

"It was formerly true that only an insignificant part of the total supply was produced from sources other than coal. That is no longer the case. In 1913 oil and gas contributed only 12.9 per cent of the energy of fuels: in 1918 only 14.9 per cent, but in 1927, only and gas contributed 31.7 per cent. The share of coal declined in the meantime from 87.1 per cent in 1913 to 68.3 per cent in 1927. Coal is still the dominant source but up to 1927 it was declining. Of the other sources of power oil and gas are the larger. Water power, though steadily growing, contributed only 7.3 per cent as much energy as did the fuels."

The percentages in 1927 were: Anthracite coal, 9.5; soft coal, 58.8; domestic oil, 23.5; natural gas, 6.7; imported oil, 1.5; and water power, as before set forth, only 7.3 per cent as much energy as the fuels.

The figures cover decades from 1819 onward to 1909. Since that time they cover 1913 and 1918 and every year since.

## PETROLEUM INSTITUTE PLANNED IN ARGENTINE

A petroleum institute is to be founded in Argentina to train native specialists to develop Argentina's petroleum resources, according to an announcement by the Pan American Union.

The general feeling displayed in debates in the Argentine Legislature that petroleum is a most important national problem requiring special attention from the government is reflected in the recent resolution passed by the Higher Council of the Faculty of Exact, Physical and Natural Sciences of the National University of Buenos Aires providing for the establishment of a Petroleum Institute. The government has pledged material aid to this school in the form of a yearly subvention of 50,000 pesos for each of the first three years after its establishment.

The aim of the institute will be twofold, research and instruction. The faculty will promote and guide technical and scientific research on oil drilling, refining and the industrial organization of petroleum with special reference to the particular problems found in Argentina.

The one-year course granting a special diploma will be divided into two sections: Drilling (which will include the exploitation of oil wells, transportation, mining legislation and industrial and commercial organizations), and the petroleum industry (including courses in the preparation of petroleum for the market, mining legislation and industrial and commercial organization).

It is expected that other specialized scientific courses will be offered in the institute for the regular students of the University of Buenos Aires, such as a course in petroleum geology and one in the chemistry of petroleum, open to candidates for the directorate in natural sciences and chemistry, respectively.

The institute, which will be placed under the engineering faculty of the University of Buenos Aires, will be, during 1929, 1930 and 1931, under the direction of a committee composed of three members: the dean, an especially designated professor (both from the faculty), and the director of national petroleum wells. Among the duties of this committee will be that of drawing up a course of study and appointing the three professors and various laboratory assistants provided for by the budget.

Petroleum is Argentina's most important mineral product. The record production was 8,726,000 bbls.

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A major oil company has just completed two wildcats in Venezuela with a Sullivan Diamond Drill.

One hole went to 4,350 feet in five months and nine days. In the other, 4,005 feet of 6⅝-in. casing was set and cemented one month and twenty-six days after spudding in.

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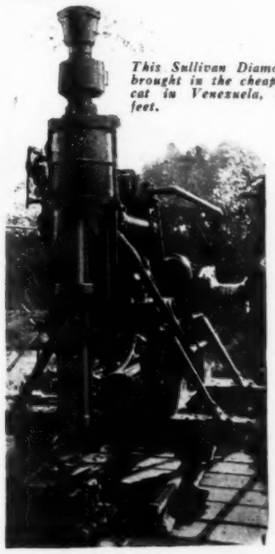

*This Sullivan Diamond Drill brought in the cheapest wildcat in Venezuela, at 4,350 feet.*

The engineer in charge worked up complete figures on the diamond drill, and on a rotary outfit, for casing a hole to 6,000 feet, and drilling it to 7,000 (diamond drills have taken core from below 6,700 feet).

His figures show that the Sullivan Equipment weighs only 61% and costs only 77% as much as the rotary outfit.

He also says that his experience shows the cost of operation, to run 20% less than for other rigs—due to savings in labor, fuel, water, rigging up, bits, and other items.

For cheaper wildcatting, for deep tests, or for structure exploration use Sullivan Diamond Drills. They will drill any formation as encountered, go to any depth, and furnish perfect core wherever desired. *The coupon will bring complete information.*

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# Oklahoma-Kansas and Eastern Pipe Line Report

## OKLAHOMA-KANSAS

### Pipe Line Statement for December

#### Runs

| Company— | Month bbls. | Dly. av. bbls. |
|---|---|---|
| Prairie P. L. Co.* | 4,696,500 | 151,500 |
| Gulf P. L. Co. | 1,379,159 | 44,489 |
| Texas P. L. Co. | 1,020,588 | 32,922 |
| Magnolia P. L. Co. | 2,291,282 | 73,912 |
| Empire P. L. Co. | 976,748 | 31,508 |
| Cosden P. L. Co. | 888,912 | 28,674 |
| Sinclair P. L. Co.* | 3,295,300 | 106,300 |
| Oklahoma P. L. Co. | 3,333,998 | 107,548 |
| Other lines | 7,533,000 | 243,000 |
| Total December | 25,415,487 | 819,853 |
| Total November | 25,052,782 | 835,092 |
| Difference | 362,705 | 15,239 |

#### Shipments

| | | |
|---|---|---|
| Prairie P. L. Co.† | 5,985,263 | 193,073 |
| Gulf P. L. Co. | 1,656,721 | 53,443 |
| Texas P. L. Co. | 1,093,305 | 35,268 |
| Magnolia Pet. Co. | 2,103,275 | 67,848 |
| Empire P. L. Co. | 763,096 | 24,616 |
| Cosden P. L. Co. | 798,847 | 25,769 |
| Sinclair P. L. Co.† | 3,421,101 | 110,359 |
| Oklahoma P. L. Co. | 3,144,586 | 101,438 |
| Other lines | 7,440,000 | 240,000 |
| Total December | 26,406,200 | 851,814 |
| Total November | 25,809,577 | 860,315 |
| Difference | 596,623 | 8,501 |

#### Stocks

| | |
|---|---|
| Prairie O. & G. Co. | 31,825,000 |
| Prairie P. L. Co. | 2,750,000 |
| Gulf P. L. and Gypsy Oil Cos. | 9,832,133 |
| The Texas Company | 7,824,740 |
| Magnolia Pet. Co. | 9,463,184 |
| Empire P. L. Co. | 3,866,000 |
| Mid-Continent Pet. Corp. | 3,713,339 |
| Carter Oil Co. | 12,111,702 |
| Oklahoma P. L. Co. | 3,206,717 |
| Sinclair Crude Oil Pur. Co. | 20,630,000 |
| Other lines | 11,700,000 |
| Total December | 116,940,815 |
| Total November | 116,225,310 |
| Difference | 715,505 |

*Estimated. †Prairie and Sinclair shipments include Kansas, Oklahoma and Texas crude oil.

Note—Stocks do not include approximately 8,000,000 bbls. held in storage on private tank farms and leases.

## EASTERN PIPE LINE REPORT

### Runs from Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio Kentucky and Indiana for December and January:

| | Dec., 1928 | Jan., 1929 |
|---|---|---|
| Nat. Transit | 145,961.90 | 136,672.42 |
| S. W. Pa. P. L. | 90,632.07 | 99,615.87 |
| Eureka P. L. | 334,400.38 | 352,729.30 |
| Buckeye P. L. (Macksb'g) | 321,746.10 | 330,659.13 |
| Buckeye P. L. (Cleve) | 11,670.01 | 11,137.67 |
| Buckeye P. L. (Lima etc.) | 102,544.02 | 90,382.06 |
| Indiana P. L. | 5,869.25 | 4,133.22 |
| Cum'land P. L. | 198,838.68 | 195,655.99 |
| N. Y. Transit | 26,551.67 | 26,987.20 |
| Tidewater P. L. | 222,437.71 | 201,809.34 |
| Pure Oil | 58,931.42 | 63,975.76 |
| Emery P. L. | 62,842.83 | 64,263.32 |
| Paragon Dev. | 21,324.31 | 17,882.64 |
| Stoll Oil Ref. | 9,023.98 | 8,337.71 |
| Total | 1,612,774.33 | 1,604,241.63 |
| Daily average | 52,024.98 | 51,749.73 |

Note—Indian Refining Co. also reported other receipts of 341,202.36 bbls. Paragon Refining Co. had other receipts of 188,650.77 bbls. Paragon Development had other receipts of 373.72 bbls.

### Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, and Kentucky for December and January:

| | Dec., 1928 | Jan., 1929 |
|---|---|---|
| Nat. Transit | 565,441.11 | 572,124.61 |
| S. W. Pa. P. L. | 472,797.78 | 438,318.41 |
| Eureka P. L. | 218,228.06 | 223,981.34 |
| Buckeye P. L. (Macksb'g) | 163,839.57 | 193,196.90 |
| Buckeye P. L. (Cleve) | 2,189.40 | 2,667.94 |
| Buckeye P. L. (Lima, etc.) | 1,389,409.84 | 1,292,954.24 |
| Indiana P. L. | 1,426,008.91 | 1,426,599.14 |
| Cum'land P. L. | 215,190.79 | 175,926.75 |
| Southern P. L. | 39,859.78 | ..... |
| N. Y. Transit | 189,477.21 | 188,973.27 |
| Northern P. L. | 173,728.49 | 131,681.47 |
| Tidewater P. L. | 184,601.11 | 164,335.93 |
| Pure Oil | 62,743.21 | 60,320.01 |
| Emery P. L. | 60,747.88 | 58,403.16 |
| Paragon Ref. | 195,558.59 | 188,650.77 |
| Paragon Dev. | 21,911.78 | 19,225.73 |
| Total | 5,381,733.51 | 5,137,359.67 |
| Daily average | 173,572.05 | 165,721.28 |

Indian Refining Co. reported other deliveries of 315,028.81 bbls.

### Gross Stocks

The gross stocks held by various pipe lines in the oil-producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana, and Kentucky at the close of December and January:

| | Dec., 1928 | Jan., 1929 |
|---|---|---|
| Nat. Transit | 863,001.46 | 812,449.58 |
| S. W. Pa. P. L. | 429,283.61 | 405,706.51 |
| Eureka P. L. | 1,166,151.69 | 1,136,389.53 |
| Buckeye P. L. (Macksb'g) | 558,828.02 | 539,030.90 |
| Buckeye P. L. (Cleve) | 33,233.02 | 58,406.82 |
| Buckeye P. L. (Lima, etc.) | 2,326,759.46 | 2,223,198.38 |
| Indiana P. L. | 503,036.50 | 520,629.71 |
| Cum'land P. L. | 504,540.79 | 527,107.30 |
| Southern P. L. | 380,167.89 | 531,254.68 |
| N. Y. Transit | 307,858.74 | 265,636.20 |
| Northern P. L. | 367,722.48 | 389,493.68 |
| Pure Oil | 11,641.89 | 16,499.34 |
| Emery P. L. | 13,422.06 | 19,132.04 |
| Paragon Ref. | 21,092.45 | 21,287.75 |
| Indian Ref. | 46,060.23 | 74,153.69 |
| Paragon Dev. | 6,754.88 | 6,187.72 |
| Total | 7,539,555.17 | 7,596,563.63 |
| Decrease | 826,998.21 | ..... |
| Increase | ..... | 57,008.46 |

### Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of December and January showing the gross stocks of the above fields:

| | Dec., 1928 | Jan., 1929 |
|---|---|---|
| Pennsylvania | 2,927,805.85 | 2,988,208.30 |
| Lima | 734,379.46 | 696,840.58 |
| Kentucky | 722,193.76 | 755,304.30 |
| Mid-Continent | 3,118,706.55 | 3,070,290.16 |
| Illinois | 36,469.55 | 85,920.29 |
| Total | 7,539,555.17 | 7,596,563.63 |

### Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

| | 1926 | 1927 | 1928 | 1929 |
|---|---|---|---|---|
| Jan. | 55,630 | 56,209 | 52,904 | 51,749 |
| Feb. | 60,394 | 61,293 | 57,002 | ..... |
| Mar. | 61,644 | 63,247 | 57,485 | ..... |
| April | 63,019 | 60,927 | 56,812 | ..... |
| May | 60,580 | 60,284 | 62,067 | ..... |
| June | 61,121 | 62,757 | 58,230 | ..... |
| July | 63,206 | 58,674 | 57,144 | ..... |
| Aug. | 61,815 | 60,870 | 57,745 | ..... |
| Sept. | 64,639 | 60,285 | 53,487 | ..... |
| Oct. | 161,132 | 147,080 | 58,100 | ..... |
| Nov. | 67,774 | 57,275 | 53,565 | ..... |
| Dec. | 58,755 | 53,980 | 52,025 | ..... |

### Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

| | 1926 | 1927 | 1928 | 1929 |
|---|---|---|---|---|
| Jan. | 156,056 | 141,227 | 146,465 | 165,721 |
| Feb. | 159,488 | 138,534 | 167,368 | ..... |
| Mar. | 150,239 | 133,777 | 158,883 | ..... |
| April | 152,374 | 140,227 | 172,935 | ..... |
| May | 160,998 | 144,594 | 180,559 | ..... |
| June | 160,257 | 149,772 | 188,024 | ..... |
| July | 160,045 | 151,850 | 189,470 | ..... |
| Aug. | 151,929 | 188,653 | 192,853 | ..... |
| Sept. | 158,915 | 144,215 | 194,138 | ..... |
| Oct. | 161,132 | 147,036 | 176,000 | ..... |
| Nov. | 172,608 | 150,975 | 176,898 | ..... |
| Dec. | 136,428 | 144,504 | 173,572 | ..... |

### Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

| | 1927 | 1928 | 1929 |
|---|---|---|---|
| Jan. | 9,718,008 | 12,276,710 | 7,596,564 |
| Feb. | 10,119,162 | 12,180,419 | ..... |
| Mar. | 10,794,044 | 12,239,725 | ..... |
| April | 11,112,295 | 11,740,125 | ..... |
| May | 11,359,381 | 11,602,468 | ..... |
| June | 11,492,673 | 11,287,678 | ..... |
| July | 11,458,128 | 10,819,331 | ..... |
| Aug. | 11,989,115 | 10,236,743 | ..... |
| Sept. | 12,212,716 | 9,660,910 | ..... |
| Oct. | 12,047,661 | 9,229,709 | ..... |
| Nov. | 11,939,740 | 8,366,553 | ..... |
| Dec. | 12,340,297 | 7,539,555 | ..... |

### Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

| 1928— | Runs | Shipments | Stocks |
|---|---|---|---|
| Feb. | 2,460.14 | 2,109.34 | 21,170.19 |
| March | 2,578.86 | 3,540.33 | 20,209.33 |
| June | 3,153.08 | 2,779.02 | 17,932.59 |
| July | 2,902.50 | 3,628.02 | 17,197.06 |
| Aug. | 2,874.11 | 2,350.13 | 17,721.84 |
| Sept. | 2,820.31 | 5,255.42 | 15,286.93 |
| Oct. | 1,289.93 | 538.89 | 17,551.93 |
| Nov. | 2,663.53 | 788.47 | 19,426.99 |
| Dec. | 3,053.60 | 3,167.53 | 19,426.99 |
| 1929— | | | |
| Jan. | 2,099.90 | ..... | 19,312.04 |

### The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

| | |
|---|---|
| Gross stocks, Feb. 1 | 2,261,171.39 |
| Runs from wells | 545,715.43 |
| Other receipts | 302,945.10 |
| Regular deliveries | 431,317.64 |
| Other deliveries | 443,033.31 |

The amount of Illinois oil run by the Tidewater Pipe Co. in January was 25,011.96 bbls. Deliveries were 63,767.03 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

| 1928— | Runs | Deliveries |
|---|---|---|
| February | 573,619.78 | 450,217.21 |
| March | 725,250.82 | 520,595.09 |
| April | 526,013.13 | 448,282.44 |
| May | 632,968.64 | 522,980.51 |
| June | 608,552.49 | 625,087.33 |
| July | 612,286.49 | 565,678.37 |
| August | 639,074.85 | 671,864.02 |
| September | 570,307.91 | 737,295.59 |
| October | 626,147.64 | 626,280.40 |
| November | 576,332.88 | 702,589.89 |
| December | 584,633.00 | 491,517.39 |
| 1929— | | |
| January | 570,727.38 | 546,084.61 |

Tidewater Pipe Co., Ltd., also delivered in January, 194,517.25 bbls. Oklahoma oil.

## AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

| Average bbls. per day— | ATLANTIC PORTS | | | | | | GULF COAST PORTS | | | | | | Total all ports |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Baltimore | Boston | New York | Philadelphia | Others | Total | Galveston | New Orleans Baton Rouge | Port Arthur Sabine Pass | Tampa | Total | | |
| July | 19,807 | 2,903 | 8,774 | 20,419 | 2,453 | 54,356 | ..... | ..... | ..... | ..... | ..... | | 54,356 |
| August | 18,161 | 3,613 | 27,774 | 17,677 | 2,419 | 69,646 | ..... | ..... | ..... | ..... | 806 | | 70,451 |
| September | 11,100 | ..... | 18,967 | 33,200 | 6,700 | 74,967 | ..... | ..... | ..... | ..... | ..... | | 74,967 |
| October | 17,323 | ..... | 11,807 | 6,483 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | | 35,613 |
| November | 21,333 | 5,200 | 25,400 | 15,200 | 7,100 | 77,233 | ..... | ..... | ..... | ..... | 1,000 | | 78,233 |
| December | 4,968 | 2,968 | 24,678 | 18,806 | 3,064 | 54,484 | ..... | ..... | ..... | ..... | 2,419 | | 56,903 |

## AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

| Average bbls. per day— | ATLANTIC PORTS | | | | | | GULF COAST PORTS | | | | | Total all ports |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Baltimore | Boston | New York | Philadelphia | Others | Total | Galveston | New Orleans Baton Rouge | Port Arthur Sabine Pass | Tampa | Total | |
| July | 23,484 | 14,548 | 111,903 | 37,678 | 21,452 | 209,065 | 9,355 | 25,000 | ..... | 774 | 35,129 | 244,194 |
| August | 25,290 | 16,323 | 133,226 | 21,613 | 7,194 | 193,645 | ..... | 38,677 | ..... | 613 | 39,290 | 232,935 |
| September | 22,933 | 19,100 | 110,467 | 30,700 | 14,233 | 197,533 | 6,367 | 41,300 | 6,333 | 1,667 | 55,667 | 253,200 |
| October | 20,161 | 16,329 | 128,452 | 27,710 | 7,093 | 200,256 | ..... | 32,226 | 3,065 | 1,612 | 36,903 | 237,161 |
| November | 18,400 | 16,033 | 133,700 | 30,267 | 8,433 | 206,833 | 1,333 | 37,167 | 4,633 | ..... | 43,133 | 249,966 |
| December | 15,419 | 15,968 | 140,871 | 42,323 | 8,709 | 223,290 | 2,903 | 36,129 | 2,355 | ..... | 40,387 | 263,677 |

## GROSS PRODUCTION IN UNITED STATES FOR 12 MONTHS (Revised)

(In barrels of 42 gallons)

| | | California | Oklahoma | Texas | Kansas | Arkansas | Louisiana | Rocky Mts. | Eastern | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| January: | Month | 19,028,228 | 20,978,320 | 20,060,111 | 3,319,325 | 2,791,322 | 1,807,061 | 2,429,375 | 3,134,000 | 73,547,742 |
| | Daily average | 613,814 | 676,720 | 647,107 | 107,075 | 90,061 | 58,292 | 78,367 | 101,097 | 2,372,134 |
| February: | Month | 18,038,459 | 19,294,426 | 19,678,396 | 3,079,887 | 2,571,575 | 1,734,207 | 2,230,837 | 3,166,000 | 69,794,187 |
| | Daily average | 622,016 | 665,324 | 678,565 | 106,203 | 88,675 | 59,800 | 76,927 | 109,172 | 2,406,496 |
| March: | Month | 19,118,324 | 20,162,524 | 21,542,365 | 3,379,031 | 2,687,942 | 1,866,106 | 2,401,911 | 3,522,000 | 74,680,153 |
| | Daily average | 616,720 | 650,404 | 694,931 | 109,001 | 86,708 | 60,197 | 77,481 | 113,613 | 2,409,036 |
| April: | Month | 18,280,729 | 19,096,920 | 21,876,913 | 3,412,260 | 2,472,600 | 1,912,187 | 2,370,810 | 3,231,000 | 72,654,419 |
| | Daily average | 609,357 | 636,564 | 729,230 | 113,742 | 82,420 | 63,740 | 79,027 | 107,700 | 2,421,797 |
| May: | Month | 19,321,866 | 19,443,355 | 21,220,046 | 3,367,809 | 2,843,847 | 1,926,026 | 2,525,043 | 3,619,000 | 74,276,992 |
| | Daily average | 623,609 | 627,205 | 684,518 | 108,639 | 91,737 | 62,130 | 81,447 | 116,743 | 2,396,677 |
| June: | Month | 19,164,244 | 18,482,981 | 19,877,936 | 3,202,050 | 3,078,911 | 2,074,422 | 2,425,470 | 3,401,000 | 71,704,014 |
| | Daily average | 638,808 | 616,099 | 662,598 | 106,735 | 102,630 | 69,147 | 80,849 | 113,367 | 2,390,134 |
| July: | Month | 19,754,458 | 18,809,188 | 22,055,737 | 3,171,548 | 2,792,139 | 2,238,090 | 2,492,586 | 3,487,000 | 74,800,766 |
| | Daily average | 637,241 | 606,748 | 711,475 | 102,308 | 90,069 | 72,131 | 80,406 | 112,484 | 2,413,250 |
| August: | Month | 19,444,899 | 20,840,804 | 23,339,131 | 3,147,055 | 2,711,787 | 1,989,264 | 2,561,840 | 3,556,000 | 76,590,780 |
| | Daily average | 627,255 | 672,284 | 720,448 | 101,518 | 87,477 | 64,170 | 82,640 | 114,709 | 2,470,670 |
| September: | Month | 18,908,169 | 22,456,860 | 21,554,269 | 3,047,250 | 2,540,070 | 1,820,225 | 2,432,430 | 3,329,000 | 78,908,273 |
| | Daily average | 630,272 | 748,562 | 718,207 | 101,575 | 84,669 | 61,007 | 81,047 | 104,300 | 2,553,777 |
| October: | Month | 19,430,992 | 23,431,071 | 23,176,853 | 3,058,460 | 2,655,484 | 1,836,221 | 2,571,832 | 3,612,000 | 79,763,913 |
| | Daily average | 626,806 | 755,841 | 715,376 | 98,660 | 85,564 | 59,233 | 82,962 | 116,516 | 2,574,964 |
| November: | Month | 19,907,526 | 22,078,680 | 20,791,798 | 2,977,800 | 2,476,080 | 1,801,914 | 2,388,870 | 3,348,000 | 78,775,668 |
| | Daily average | 663,584 | 735,956 | 693,059 | 99,260 | 82,536 | 60,064 | 79,629 | 111,600 | 2,626,522 |
| December: | Month | 21,574,703 | 22,435,722 | 22,180,102 | 2,988,400 | 2,521,571 | 1,846,841 | 2,289,040 | 3,581,000 | 79,407,279 |
| | Daily average | 695,958 | 723,410 | 715,487 | 96,400 | 81,341 | 59,576 | 73,840 | 115,516 | 2,561,525 |
| | Total 12 months | 231,982,597 | 247,500,351 | 255,354,357 | 38,150,878 | 32,137,934 | 22,862,564 | 29,120,084 | 40,886,000 | 897,996,765 |
| | Daily average | 633,832 | 676,233 | 697,690 | 104,287 | 87,809 | 62,466 | 79,563 | 111,710 | 2,453,510 |

XUM

# CONFIDENCE

When a graceful young lady, with much to live for, leaves the safety of her trapeze to hurl herself through space to the hands of a waiting partner, it may look like sheer recklessness. In reality, it is common-sense confidence—based on performance.

Performance is likewise the basis of the confidence GASO Pumps enjoy—performance exemplified by the manner in which GASOS operate year after year for many of the biggest companies in the industry: Prairie, Sinclair, Texas, Standard and Midwest, to cite just a few.

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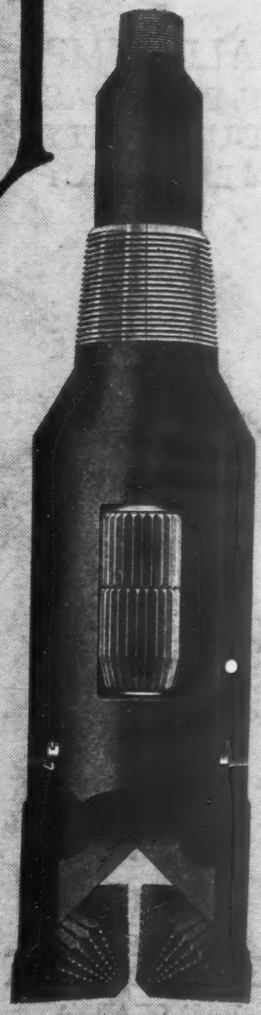

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